REDACTED - FOR PUBLIC INSPECTION

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Applications of AT&T Inc. and	)	WT Docket No. 11-65
Deutsche Telekom AG	)	DA 110799
	)	ULS File No. 0004669383
For Consent to Assign or Transfer	)	
Control of Licenses and Authorizations	)	
	)	

REPLY DECLARATION OF DENNIS W. CARLTON, ALLAN L. SHAMPINE & HAL S. SIDER

June 9, 2011

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I. INTRODUCTION

1. We submitted a declaration in this matter on behalf of AT&T Inc. ("AT&T") on April 20, 2011 that presented our assessment of competitive issues raised by AT&T's proposed acquisition of T-Mobile USA Inc. ("T-Mobile USA"). In that declaration we concluded that the proposed transaction will promote competition and benefit consumers by enabling the merged firm to achieve engineering-based network synergies that increase network capacity beyond the levels that AT&T and T-Mobile USA could achieve if the two continued to operate on a stand-alone basis. We also concluded that these capacity increases would benefit consumers by expanding output and lowering price relative to levels that would be observed in the absence of the proposed transaction.[1]

2. We have been asked by counsel for AT&T to review and evaluate comments submitted to the FCC by various parties that oppose the proposed transaction. Given the similarity of the arguments presented by many opponents of the proposed merger, our reply focuses principally on comments submitted by major industry participants including Sprint Nextel Corporation ("Sprint")[2], MetroPCS Communications, Inc. and NTELOS, Inc ("MetroPCS")[3], Leap Wireless International, Inc. ("Leap") [4], Cincinnati Bell Wireless Inc ("CBW")[5] and the Rural Cellular Association ("RCA")[6]. We also address a distinct set of claims by the Ad Hoc Telecommunications Users Committee.[7] Given the limited

1. Declaration of Dennis W. Carlton, Allan Shampine and Hal Sider, April 20, 2011 ("Carlton, Shampine & Sider Declaration").
2. Sprint Nextel Petition to Deny, May 31, 2011 ("Sprint Petition").
3. Petition of MetroPCS Communications, Inc. and NTELOS Inc. to Condition Consent, or Deny Application, May 31, 2011 ("MetroPCS Petition").
4. Petition to Deny of Leap Wireless International, Inc. and Cricket Communications, Inc., May 31, 2011 ("Leap Petition").
5. Petition of Cincinnati Bell Wireless LLC to Condition Consent or Deny Applications, May 31, 2011 ("CBW Petition").
6. Petition to Deny of Rural Cellular Association, May 31, 2011 ("RCA Petition").
7. Comments of The Ad Hoc Telecommunications Users Committee, May 31, 2011. ("Ad Hoc Petition"). Declaration of Lee L. Selwyn, attached to Ad Hoc Petition, May 31, 2011 ("Selwyn").

time available for a response, our comments attempt to focus on the principal claims and arguments advocated by these groups and their economic experts. Our failure to address any particular argument or claim should not be interpreted to suggest that we agree with the claim.

A. OVERVIEW OF OPPONENTS' CLAIMS

3. Opponents make a wide variety of arguments in support of their view that the proposed transaction will adversely affect competition and present a variety of arguments disputing the analyses presented in our earlier declaration.

4. The principal arguments addressed in this reply are as follows:

- Sprint, its economists, and several other opponents claim that the efficiencies claims by AT&T are insufficiently documented,[8] that AT&T has sufficient spectrum to meet the demands on its network,[9] and that AT&T has ready alternatives to the proposed merger to meet its capacity requirements.[10] As such, they argue that the claimed efficiencies are not cognizable under standards used by the Federal Communications Commission ("Commission") and the Merger Guidelines.[11] At the same time, the Ad Hoc Telecommunications Users Committee and its economist do not dispute AT&T's efficiency claims but instead argue that "the economic evidence proffered by the Applicants to justify the merger also demonstrates that the wireless market has the structural characteristics of a natural monopoly"[12] and ask the Commission to

8. Steven C. Salop, Stanley M. Besen, Stephen D. Kletter, Serge X. Moresi and John R. Woodbury, "Economic Analysis of the Merger of AT&T and T-Mobile" as part of Sprint's Petition to Deny, May 31, 2011 (hereafter, "CRA") ¶184; MetroPCS Petition, p. 25.
9. RCA Petition, p. 13.
10. CBW Petition, pp. 27-28; CRA, ¶¶189-192; Leap Petition, p. 28.
11. CRA, ¶184.
12. Ad Hoc Petition, p. 2.

"intervene in a comprehensive and pro-active manner in order to protect consumers" by restructuring the regulation of special access services.[13]

- Opponents argue that the proposed transaction will harm consumers through a complex combination of anticompetitive "horizontal" and "vertical" effects. With respect to horizontal concerns, they argue that the loss of T-Mobile USA as an independent competitor will result in both unilateral incentives to raise price and increased risk of coordinated interaction. With respect to vertical concerns, they argue that the proposed transaction enables AT&T to raise a variety of its rivals' costs. They further argue that the risk of horizontal effects is exacerbated by the claimed impact of the proposed transaction on the costs faced by AT&T's rivals.
- With respect to horizontal merger concerns, opponents' experts argue that the merger creates "upward pricing pressure" and increases risks of coordination among wireless carriers.[14] Opponents' horizontal concerns are based in part on their view of the product and geographic markets for wireless services and the claimed lack of significance of various competitors in the industry.[15]
- With respect to vertical concerns, opponents claim that the proposed transaction will result in higher costs to AT&T's rivals which will result in harm to competition:
    - Opponents claim that AT&T is a key provider of special access services and the transaction will result in higher special access rates charged to other wireless

13. Ad Hoc Petition, p. 4.
14. CRA, ¶166, MetroPCS Petition, pp. 47-50.
15. CRA, ¶38-44, MetroPCS pp. 17-18, Leap Petition, p. 19.

carriers. They claim that the resulting increase in "special access" or "backhaul" costs would harm rival carriers' ability to compete.[16]

- Opponents claim that the proposed transaction reduces the ability of smaller carriers to provide attractive and high quality handsets.[17]
- Opponents claim that the proposed transaction will result in higher prices for wholesale services sold to wireless resellers and mobile virtual network operators (MVNOs) and in higher rates in roaming agreements with other wireless firms. [18]

- Finally, opponents claim that the proposed transaction will limit the ability of smaller carriers to compete by harming innovation. [19]

B. OVERVIEW OF REPLY DECLARATION

5. Opponents to the proposed transaction correctly recognize that the proposed transaction comes at a critical time in the history and evolution of the wireless industry.[20] None of the parties opposing the proposed transaction dispute the extraordinary growth in demand for wireless data services in recent years, nor do any opponents dispute that demand for wireless data services will continue to grow at dramatic rates in coming years. None of the opponents question the conclusions and recommendations of the Commission in the National Broadband Plan that 500 MHz of new spectrum should be made available for wireless service over the next 10 years.[21] Opponents also do not

16. CRA, ¶¶96-98; Leap Petition, pp. 24-25; MetroPCS Petition, p. 54. We use the terms "special access" and "backhaul" to refer to those issues raised by commenters concerning point to point transport of traffic.
17. CRA, ¶¶106-107; MetroPCS Petition, pp. 58-60;
18. CBW Petition, pp. 10-12; RCA Petition, pp. 2-3.
19. CRA, ¶¶108-119.
20. Selwyn, p. 22; CRA,¶6; MetroPCS Petition, p. 4.
21. FCC, National Broadband Plan, Executive Summary, p. XII.

challenge the view expressed by analysts and the Commission that no significant new block of spectrum is likely to be offered for auction for several years.[22]

6. The proposed transaction is a direct response to these conditions.[23] The Commission must evaluate whether the proposed transaction is in the public interest and we evaluate from an economic perspective the closely related question of whether the proposed transaction benefits consumers. Efficiencies generated by the proposed transaction promise to increase the combined capacity of the AT&T and T-Mobile USA networks and to relieve both capacity constraints that AT&T currently faces in many geographic areas as well as the capacity constraints that it expects to soon face in many other areas. The increase in network capacity creates strong incentives for AT&T after the proposed transaction to expand the current output of AT&T and T-Mobile USA by moving more traffic over its wireless network and increasing the quality of service provided to its subscribers. Increases in output and service quality (relative to levels expected in the absence of the proposed transaction) represent unambiguous improvements in consumer welfare. Increased output also mean that the average price per minute and megabyte consumed by consumers falls as a result of the proposed transaction, with any merger-related improvement in service quality implying that the "quality-adjusted" price falls even more.

7. The increases in capacity and output that the proposed transaction is expected to generate do not depend on the precise scope of the product market (or markets) or the precise scope of the geographic market (or markets) for wireless service. Nor do they depend on the precise degree to which Sprint and other carriers constrain AT&T's actions. Instead, consumers benefit from the proposed transaction because it increases the capacity of AT&T's network and lowers the additional costs faced by

22. Leap Petition, p. 18; JP Morgan, "U.S. Telecom Services & Towers," January 13, 2011, pp. 48-49; FCC, Spectrum Analysis: Options for Broadcast Spectrum, OBI Technical Paper No. 3, June 2010, p. 4.
23. Carlton, Shampine & Sider Declaration, ¶9.

AT&T in carrying additional wireless traffic, improving service quality and serving more subscribers for all types of consumers in all areas.

8. The existence of efficiencies from the proposed transaction does not imply that the wireless industry is a natural monopoly that should be regulated, just as the existence of an efficiency-enhancing merger in any other industry is not evidence of a natural monopoly in that industry or the need for regulation.

9. As noted above, opponents claim that the proposed transaction would harm consumers by raising wireless prices. However, advocacy of such claims by AT&T's rivals is paradoxical because these firms would benefit from higher prices. An alternative explanation for many of opponents' concerns is that they fear competition from the creation of a more efficient rival because, like AT&T, they also recognize that the proposed transaction creates powerful incentives for AT&T to expand output and quality. The consequence of the realization of such efficiencies which benefit consumers and promote the public interest could also be a detriment to AT&T's rivals.

10. The remainder of this declaration addresses these arguments in additional detail. None of the opponents' comments lead us to revise any of the opinions expressed in our initial declaration. Our principal conclusions are as follows.

- Section II addresses opponents' efficiency-related claims. We conclude that opponents' claims that AT&T has ample spectrum to meet capacity demand or can relieve capacity constraints in other ways are not supported by available data which document AT&T's on-going deployment of high-cost technologies to alleviate current and expected future capacity constraints. We then summarize the large, albeit approximate, estimates of the increase in AT&T capacity expected to be generated by the proposed transaction in a variety of geographic areas.

- Section III addresses opponents' horizontal concerns, including their claims that that the proposed transaction will result in higher prices as the result of unilateral or coordinated effects. Opponents' analyses of market definition, shares and HHIs, are not relevant in predicting the effects of the proposed transaction as these analyses do not adequately reflect the likely impact of the proposed transaction on consumer welfare and competition. We explain that the unilateral effects models presented by CRA ignore the true marginal costs faced by AT&T in expanding output and fail to account for the likely improvement in quality and that, as a result, CRA's model fails to support the conclusion that any potential unilateral effects would not be outweighed by efficiencies. Finally, we explain that opponents' analyses of coordinated effects disregard structural features of the industry that make the coordination they posit implausible and understate the competitive significance of not only Sprint but also of multi-area and regional competitors such as MetroPCS, Leap, US Cellular and others as well as structural features of the industry.
- Section IV shows that there is no basis for concerns that the proposed transaction will affect AT&T's incentive or ability to impose costs on rivals.
    - We conclude that there is no basis for opponents' claim that the proposed transaction will harm competition by raising special access rates charged by AT&T to rival wireless carriers. We show that T-Mobile USA's experience indicates that there are a variety of access providers that are alternatives to AT&T (and other incumbent local exchange carriers, or "ILECs") in nearly all areas where it provides HSPA+ services. We also show that special access costs comprise only a modest share of the costs faced by AT&T's wireless rivals so in

the unlikely event of significant increases in special access rates, the profitability and competitive viability of AT&T's rivals would not be materially affected.

- We conclude that there is no basis for opponents' concern that the proposed transaction harms competition by raising costs faced by AT&T's rivals in providing attractive and high quality handsets. While a variety of opponents claim that the proposed transaction will prevent smaller carriers from obtaining attractive handsets, we show that there is no basis for concern that exclusive relationships between handset manufacturers and carriers will be unavailable to smaller competitors. We show that (i) many different handset manufacturers have had success in selling innovative and attractive handsets; (ii) Sprint and smaller carriers have been successful in attracting handset manufacturers to provide innovative and attractive handsets; and (iii) the transaction does not adversely affect the size of these carriers or their ability to partner with manufacturers of handsets.
- Finally, we explain that opponents exaggerate concerns that the proposed transaction will raise the costs faced by wireless rivals including resellers and rivals that purchase roaming services. Resellers and MVNOs often purchase from both CDMA and GSM-based carriers and will continue to have the ability to do so after the proposed merger. We show that concerns about the impact of the proposed transaction on roaming are overstated due in part to the fact that AT&T is a net buyer of roaming services and will increase its net roaming purchases as a result of the proposed transaction thus creating general pressure for lower roaming rates. There also is no basis for concern that the proposed

transaction will adversely affect future LTE-based roaming services because the transaction does not reduce the number of future providers of LTE services (since T-Mobile USA has no clear path to deployment of LTE).

- Section V shows that opponents' claims that the proposed transaction will adversely affect AT&T's rivals or consumers by slowing innovation are unsupported. Innovation in the wireless industry involves the interaction of many parties worldwide including wireless carriers, handset manufacturers, infrastructure manufacturers, the developers of handset operating systems, and developers of wireless applications. Moreover, the proposed transaction does not eliminate Deutsche Telekom, T-Mobile USA's parent, which will remain a large wireless carrier operating in a large number of countries, as a participant in the innovation process.

II. THERE IS NO BASIS FOR OPPONENTS' CLAIMS THAT THE NETWORK EFFICIENCIES ARE ILLUSORY OR CAN BE ACHIEVED WITHOUT THE PROPOSED TRANSACTION.

A. SUMMARY OF CLAIMS

11. Opponents make a variety of claims suggesting that AT&T can meet its goal of expanding capacity to meet the growing demand for wireless services in the absence of the proposed transaction. More specifically, some opponents claim that spectrum not currently used by AT&T can be equipped to address AT&T's capacity constraints. Others cite the similarity in the average spectrum holdings of Verizon Wireless and AT&T to suggest that AT&T's capacity constraints are the product of inefficient network operation.

12. For example, opponents claim that AT&T already possesses sufficient spectrum to meet current and future demand.[24] They also claim that if AT&T is facing capacity constraints, it is not a result

24. RCA Petition, p. 13; Leap Petition, p. 28.

of insufficient spectrum but an outcome of AT&T's inefficient management of its spectrum and poor planning.[25] Opponents claim that Verizon has presented no indication it is facing capacity constraints despite owning less spectrum and supporting more subscribers.[26] Opponents also argue that many of the efficiencies AT&T claims will result from the merger, such as greater speed and coverage of LTE deployment, will be achieved absent the merger as well.[27]

13. This section shows that these claims are unfounded and reflect a misunderstanding of the complexities associated with AT&T's need to provide service over multiple technologies and spectrum bands.

B. OPPONENTS INCORRECTLY CLAIM THAT AT&T'S UNEQUIPPED SPECTRUM HOLDINGS INDICATE THAT AT&T DOES NOT FACE CAPACITY CONSTRAINTS.

14. AT&T's network deployment decisions, like those of many other carriers, depend on the capabilities of existing subscribers' handsets, the need to continue to provide services for customers that continue to use older technologies, and considerations of future demand and technology factors.[28] While some spectrum held by AT&T is not currently equipped to provide wireless service, it is inappropriate to claim that this spectrum can be used to address AT&T's immediate capacity constraints, to characterize it as "warehoused"[29] or "fallow," or to suggest that it is being withheld from use.

15. To the contrary, the "idle" AWS and 700 MHz spectrum that opponents have identified is now being used to deploy LTE services. As discussed in our initial declaration and the Declaration of William Hogg, the deployment of a new technology such as LTE is a multi-year process that requires acquiring and clearing spectrum, development of standards for new technology and handsets, and

25. MetroPCS Petition, pp. 36-37; CRA, ¶195.
26. Leap Petition, p. 29.
27. Leap Petition, pp. 29-30, CRA, ¶¶187-192.
28. Carlton, Shampine & Sider Declaration, ¶¶30-35.
29. CBW Petition, p. 28; Sprint Petition, pp. 90-91.

rolling out services on a commercial basis.[30] As discussed in our prior declaration, AT&T's build-out of the LTE network is currently underway, a process that is expected to take several years.[31]

16. It is inaccurate to characterize the spectrum scheduled to be used by this new service as "warehoused," "fallow,"[32] or "idle."[33] Dedicating this spectrum to GSM or UMTS services to meet immediate capacity problems would result in a reduction in future output by allocating scarce spectrum to a less efficient use and would delay and limit the scope of deployment for more spectrally efficient LTE. As discussed in our prior declaration, once spectrum is deployed it is difficult and time-consuming to reallocate it to higher valued uses due to a carrier's need to continue to provide services to subscribers with handsets designed to access technology deployed on these spectrum bands.

17. Moreover, as discussed in the accompanying Reply Declaration of William Hogg, AT&T's Senior Vice President for Network Planning and Engineering, deployment of GSM and UMTS over these spectrum bands would not even alleviate short-term capacity problems because existing handsets are not equipped to access these spectrum bands.[34] As a result, dedicating this unused spectrum to GSM and UMTS would only have an impact on reducing AT&T's capacity constraints once new and renewing subscribers obtained new handsets that access the newly equipped spectrum. AT&T has chosen the more efficient path of deploying the infrastructure to use the spectrum for LTE instead.

C. THE TECHNOLOGY CHOICES DEPLOYED BY AT&T WHEN EXPANDING CAPACITY CONTRADICT OPPONENTS' CLAIMS THAT AT&T IS NOT FACING CAPACITY CONSTRAINTS.

18. Opponents' claims that AT&T can economically expand capacity by the same degree without the proposed transaction are contradicted by the facts of AT&T's widespread deployment of

30. Declaration of William Hogg, April 20, 2011 ("Hogg Declaration"), ¶¶40-41; Carlton, Shampine & Sider Declaration, ¶¶33-35 and ¶¶40-41.
31. Carlton, Shampine & Sider Declaration, ¶25.
32. Sprint Petition, p. 99.
33. Declaration of Steven Stravitz (Sprint Nextel), p. 4.
34. Reply Declaration of William Hogg, June 10, 2011 ("Hogg Reply Declaration").

high-cost technologies to expand capacity. AT&T's on-going investment in these costly alternatives demonstrates that the lower cost options proposed by opponents are not available to relieve capacity constraints in many areas.

19. If unused spectrum is available, wireless carriers can readily expand capacity by equipping this spectrum with radio or "carrier" capacity.[35] In the absence of this alternative, wireless firms can expand capacity or increase coverage in more costly ways, including (i) increasing network density by adding cell sites; (ii) deploying distributed antenna systems (DAS); (iii) Wi-Fi systems, or (iv) "femtocells" which are small base stations used in homes or offices to connect to a service providers' network through a broadband connection.[36] DAS, Wi-Fi systems, and femtocells can increase network capacity or coverage in targeted areas.

20. Among these alternatives, deploying unused spectrum with a carrier is the least expensive way to increase network capacity or coverage when useable spectrum is freely available. Internal AT&T analysis indicates that an equivalent amount of capacity can be obtained by building a new cell site at roughly triple the cost of expanding capacity by adding a new UMTS carrier. As described in the Hogg Declaration, AT&T has active and on-going efforts to deploy new cell sites, but AT&T's ability to do so is limited by a variety of external factors including: (i) the availability of suitable locations that meet the location, height and orientation requirements of the existing network; and (ii) the time required to identify new sites, negotiate leases and obtain permits. In 2010, AT&T deployed **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** new sites.[37]

35. Opponents do not dispute that wireless carriers cannot readily expand capacity through targeted or "spot" spectrum purchases. As discussed in the Hogg Declaration, AT&T has limited opportunities to expand capacity in this manner given the need for newly purchased spectrum to be compatible with AT&T's installed handset base and network equipment. (¶66)
36. We understand that AT&T refers to "femtocells" as "microcells" for marketing purposes.
37. Hogg Declaration, ¶72.

21. A more expensive option is to deploy an outdoor distributed antenna system, or oDAS, which involves placing a large number of relatively low powered antennas on street lights, utility poles or similar locations. Each antenna has a range that is much smaller than a traditional cell site. AT&T estimates that the use of DAS systems to expand capacity results in costs that are roughly **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** times as much as a new carrier and seven times as much as a new cell site.[38] As summarized in Table 1, AT&T has deployed outdoor oDAS systems in **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** areas to date, demonstrating the widespread need for AT&T to use high cost technologies to respond to capacity problems. In addition to these oDAS systems, AT&T has attempted to meet subscribers' capacity demands by deploying more than 750 DAS systems in venues, including sports arenas and other geographic areas generating heavy call volume; and also has deployed nearly 200 indoor DAS systems to improve capacity and coverage within buildings that generate high traffic volume.[39]

38. AT&T data.
39. AT&T data. AT&T is unable to classily roughly 750 of its DAS systems as being outdoor, indoor, or venue installations.

Table 1

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22. Wi-Fi systems use antennas with an even shorter range than DAS and provide another high cost solution to increasing capacity and coverage in localized areas that generate heavy traffic volume. Many Wi-Fi calling solutions also do not support call handovers and thus provide lower quality service than AT&T's wireless network. Beginning in 2010, AT&T began to deploy "Wi-Fi City Hot Zones" in order to move traffic off of its wireless network. These zones are designed to handle traffic generated by AT&T subscribers covered by the Wi-Fi signal.[40] As shown in Table 2, AT&T has deployed Hot Zones in

40. AT&T also has deployed more than 24,000 Wi-Fi systems in restaurant and retail locations such as McDonald's and Starbucks (AT&T data). These installations are a managed service offered by AT&T and, unlike Hot Zones, are not deployed simply as a tool to offload network traffic or to improve network coverage.

6 metropolitan areas to date and is planning to expand coverage significantly in the next 12 months. AT&T has estimated that the cost per megabyte of traffic offloaded through a Hot Zone is more than four times its national average cost.[41] As with DAS, venue deployments of Wi-Fi are even more expensive, roughly **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** times the cost of Hot Zones.[42]

Table 2

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23. Finally, femtocells have a range of **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** feet and are used to provide service to a single residence or office. AT&T has deployed over **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** femtocells throughout the country.[43] Furthermore, AT&T has begun offering free

41. AT&T data.
42. AT&T data.
43. Hogg Declaration, ¶ 73.

femtocells to up to 7.5 percent of 3G customers, targeting those that have been judged to be most likely to experience poor in-building coverage.[44] These units cost AT&T **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** each but are being given away to subscribers in a variety of areas.[45] We understand that the cost of expanding coverage using femtocells is significantly higher than that of any other technology. AT&T has currently deployed femtocells in over **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** CMAs.[46]

24. The use of these higher cost alternatives demonstrates that AT&T is facing a steeply increasing marginal cost curve in capacity constrained areas. As discussed below, the proposed transaction enables AT&T to expand capacity or, equivalently, reduce the marginal cost of operating at any given level of output.

D. THE PROPOSED TRANSACTION ENABLES THE MERGED FIRM TO EXPAND CAPACITY.

25. Opponents argue that AT&T has failed to document sufficiently its explanation of how the proposed transaction will expand network capacity. We begin by noting that Dr. Selwyn does not challenge AT&T's efficiency claims but accepts them as the starting point of his analysis. Also, in reviewing the Sprint/Nextel transaction in 2005, Professor Salop and two of his co-authors described the same sorts of efficiencies, including how network integration would produce a denser cell site network that would reduce costs, improve in-building coverage, improve signal strength and increase capacity.[47]

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44. Chris Ziegler, "AT&T offering free MicroCells to top 7.5 percent of customers 'likely to experience poor in-building coverage'," *Engadget*, January 21, 2011.
45. AT&T data.
46. AT&T data.
47. Selwyn, ¶11; Joint Declaration of Stanly M. Besen, Steven C. Salop and John R. Woodbury, February 8, 2005, re Sprint/Nextel Application for Transfer of Control ("Besen, Salop and Woodbury Joint Declaration"), p. 11.

They also argued that such integration was merger-specific and could not be readily achieved through other means.[48]

26. As explained in the accompanying Hogg Reply Declaration and the Reply Declaration of Professor Jeffrey H. Reed and Dr. Nishith D. Tripathi ("Reed and Tripathi Reply Declaration"), the capacity of wireless networks, and the impact of the merger on network capacity, depend on a wide variety of factors and cannot be summarized by one simple measure. Nonetheless, the Hogg Declaration explains that the impact of the proposed merger on changes in capacity can be approximated by a small number of factors including: (i) cell density, as measured by the number of cell sites or "sectors" deployed in the network; (ii) spectrum equipped in these sectors; and (iii) mix of technologies deployed – GSM, UMTS and LTE.

27. As Reed and Tripathi explain, network performance is typically measured based on capacity at peak periods, since these are the times that are most likely to result in a poor consumer experience.[49] Peak traffic levels may vary widely over both time and geography. Reed and Tripathi stress that network "capacity" can also vary over both time and geography for a variety of factors including topology, weather, and other obstructions. As a result, network capacity is typically measured based on peak, or "busy hour" capacity. GSM, UMTS and LTE all have different levels of spectral efficiency and AT&T has provided an engineering-based estimate of peak capacity for these technologies, measured as bits per second per hertz. By this measure, UMTS is roughly 6 times as efficient as GSM, and LTE is roughly 12 times as efficient as GSM.[50]

28. The merger can generate increases in network capacity over the combined sum of the capacities of AT&T and T-Mobile USA operated on a stand-alone basis by (i) increasing the number of

48. Besen, Salop and Woodbury Joint Declaration, p. 12.
49. Reed and Tripathi Reply Declaration, pp. 7-8.
50. For simplicity, AT&T spectral efficiency parameters are based on a network that transmits data traffic alone. The same parameters are used in both estimates of stand-alone and combined capacity.

sectors in the combined network; (ii) increasing the amount of spectrum the combined firm equips on each sector to provide services; and (iii) enabling the merged firm to shift to more spectrally efficient technologies.

29. It is possible to calculate in approximate terms the percentage increase in capacity that the merger would be expected to generate (holding quality constant) based on parameters and data provided by AT&T. Specifically, AT&T has provided information on: (i) the number of sectors in the AT&T and T-Mobile USA networks in use in a sample of geographic areas today as well as the number of cell sites that it expects to use in those areas in the combined firms' network; (ii) two scenarios about the extent to which AT&T and T-Mobile USA will equip spectrum not currently in use with and without the proposed merger; and (iii) two scenarios about the extent to which the proposed transaction would enable AT&T and T-Mobile USA to shift spectrum from GSM to UMTS to LTE with and without the proposed merger. As described in the Hogg Reply Declaration, the estimated increase in capacity calculated in this manner does not take into account channel pooling and utilization efficiencies.[51]

30. Because the expected deployment of spectrum by technology changes over time both (i) for AT&T and T-Mobile USA operating on a standalone basis and (ii) for the combined firm, the estimated impact of the proposed transaction on capacity can vary over time. In particular, if the merger enables more spectrum to be shifted to LTE over time, the merger-related growth in capacity will increase. AT&T has specified two alternative scenarios of the use of spectrum over time for AT&T and T-Mobile USA on a standalone and combined basis:

- A "base" scenario that reflects near-term projections of spectrum utilization and limited deployment of LTE with and without the proposed merger and in which AT&T has successfully increased network density based on its current post-merger

51. Hogg Reply Declaration.

network integration assumptions. The scenario also reflects AT&T's ability to realize GSM "control channel" efficiencies that enable it to shift some GSM spectrum to more efficient technologies, but no other gains from shifting other spectrum to higher valued uses.

- A "final" scenario that is generally consistent with AT&T's longer term view of its ability to deploy LTE with and without the proposed transaction. This scenario, as well as the "base" scenario, is based on the view that T-Mobile USA will not deploy LTE in the absence of the proposed transaction.[52]

31. Using the data and parameters provided by AT&T, we have calculated technology-specific capacity in each area as the product of (i) sectors deployed; (ii) spectrum deployed by technology; and (iii) the peak capacity measure by technology. Area-specific capacity is calculated as the sum of the technology-specific factors. We then compare the percentage difference between (i) the sum of the calculated stand-alone capacities for AT&T and T-Mobile USA; and (ii) the sum of the calculated capacity for the combined firm.[53]

32. The resulting measure of increased capacity can be interpreted as the percentage increase in the number of subscribers that the merged firm could serve, relative to the sum of AT&T and T-Mobile USA on a stand-alone basis, holding constant the quality of service being provided and average usage per subscriber.[54] Alternatively, the calculated measure of increased capacity can be interpreted as the percentage increase in spectrum effectively "created" by the proposed transaction (given the spectrum and technology used by each firm on a stand-alone basis).

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52. For simplicity, we assume no change in network density between the "base" and "final" scenarios.
53. As explained in the Hogg Reply Declaration, this simple approach omits several complicating factors but yields a reasonable approximation of the change in capacity.
54. The quality of the service will also improve under these assumptions because, for example, the increased network density will result in an improvement in signal strength. See Hogg Declaration, ¶¶38, 57.

33. These calculations are performed for 14 geographic areas identified by AT&T. These are areas where AT&T either (i) **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]. The analysis covers densely populated urban areas facing spectrum exhaust (such as San Francisco and New York) as well as a variety of other smaller areas. The same framework and logic would apply to other areas that face spectrum exhaust in **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]**.[55]

34. The results of this analysis are presented in Table 3 which summarizes estimates of the merger-related increase in capacity in different geographic areas. These results indicate that in the "base" scenario the proposed transaction will increase capacity by **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** percent in New York, **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** percent in Los Angeles and **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** percent in San Francisco. The estimated magnitudes of merger-related capacity increases are roughly similar in the other areas analyzed. Again, the "base" scenario is limited to the initial integration of the networks.

55. Hogg Declaration, ¶¶ 7, 14, 41, 60.

Table 3

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35. The estimated increases in capacity are greater in the "final" scenario, which accounts for AT&T's greater ability over time to redeploy spectrum to use more spectrally efficient technologies. In this scenario, the proposed transaction would result in an **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent increase in capacity in New York, a **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent increase in Los Angeles and a **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent increase in network capacity in San Francisco.[56]

56. The large increase for San Francisco is due in substantial part to AT&T's expectation that it will integrate a particularly large number of T-Mobile USA cell sites into the combined company's cell grid.

36. As noted above, these calculations approximate changes in traffic that the network can carry or, equivalently, changes in the number of subscribers a network can support assuming no changes in usage per subscriber and holding service quality at current levels. Alternatively, the increase in capacity can be interpreted as the amount of "spectrum created" by the transaction (holding initial spectrum deployment and technology mix constant). We understand that the increase in capacity also would provide AT&T an increase in the quality of network performance, albeit with a reduction in the potential increase in the number of subscribers served. As noted above, while large, these estimates do not control for additional potential efficiencies that the merger is expected to generate, including the "channel pooling" and utilization efficiencies discussed in the Hogg Declaration and Reed and Tripathi Reply Declaration.

E. INCREASES IN CAPACITY ARE LIKELY TO BENEFIT CONSUMERS BY GENERATING IMMEDIATE INCREASES IN NETWORK UTILIZATION AND SERVICE QUALITY.

37. Merger-related increases in network capacity both enable the network to carry more traffic and improve service quality. Both of these effects benefit consumers and are expected to immediately result from the combination of the AT&T and T-Mobile networks. Improvements in capacity and service quality are interrelated because wireless subscribers are more likely to utilize bandwidth intensive applications as service quality improves. For example, users will be likely to make more calls if faced with the prospect of fewer dropped or blocked calls and to utilize more video applications when wireless networks offer greater download speeds.

38. This "automatic" increase in output generated by an increase in capacity is reinforced by the structure of wireless pricing, which typically does not depend directly on the volume of data used. As a result, an increase in utilization does not typically raise the marginal price of usage (it results in a decrease in the average price per megabyte utilized). Therefore, the reduction in average price and

increase in output resulting from the increase in service quality generate an unambiguous increase in consumer welfare.[57]

39. Data available from AT&T and T-Mobile show that improvements in network capacity result in (i) improved service quality; and (ii) greater network utilization. Available data also show that subscribers place significant value on higher quality service, which is reflected in lower churn rates among both AT&T and T-Mobile customers that received higher signal quality. We address each of these effects in turn.

1. AT&T DATA INDICATE THAT NETWORK QUALITY IMPROVES AFTER IMPLEMENTATION OF INCREASES IN NETWORK CAPACITY OR COVERAGE.

40. As discussed above, there is a close interconnection between network capacity and service quality, and increases in capacity can be used to support additional subscribers, to increase quality, or some combination of both. For example, a network with more capacity relative to the number of users may experience fewer dropped or blocked calls and may also be able to accommodate faster download speeds. As this suggests, improvements in network capacity benefit consumers by providing greater service quality and/or consumption of additional traffic.

41. One example of this effect is AT&T's **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]. As shown in Figure 1, AT&T's dropped and blocked call performance improved after capacity increased. AT&T measures network quality in the ordinary course of business using, among other metrics, both the "accessibility rate", which reflects the percentage of calls that are not "blocked" and the "retainability rate" which is the share of calls that are not dropped. Increases in accessibility and retainability thus

57. Although some carriers offer "usage-sensitive" data plans, these plans typically provide a relatively large data allowance of a fixed price, such that incremental usage within that allowance would not result in additional fees.

reflect higher service quality. Consumers benefit directly from these improvements in service quality, which result in an "automatic" reduction in the quality-adjusted price for AT&T service.

Figure 1

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42. In evaluating the impact of merger-related service quality improvements on consumer welfare, it is important to note that such improvements are expected in all areas, not just in those that are now capacity constrained:

- Increased network density resulting from the proposed merger means that subscribers will, on average, have closer cell sites and therefore have "more bars," i.e., better signal strength and quality.[58] The denser cell site network also is expected to improve

58. Hogg Declaration, ¶¶57-58, 63.

performance for users by reducing service degradation due to distance-related interference.[59]

- The majority of T-Mobile USA GSM phones are able to access both the T-Mobile USA and AT&T networks so that the phones can roam on the AT&T network (and vice versa). Today, phones use their own carrier's signal rather than a roaming signal even if the roaming signal is better, in order to avoid roaming charges. The proposed transaction thus will enable the capability for both T-Mobile and AT&T phones in certain areas to access the strongest signal resulting in improved service quality.[60]
- Improved network density also is expected to result in improved in-building coverage, again due to reduced average distance between cell sites and subscribers and improved access to spectrum bands with better in-building propagation characteristics. [61]

As noted above, these are precisely the sorts of quality improvements which Professor Salop and his co-authors described as stemming from network integration in the Sprint/Nextel merger.

2. AT&T AND T-MOBILE USA DATA INDICATE THAT TRAFFIC VOLUME INCREASES AFTER IMPLEMENTATION OF INCREASES IN NETWORK CAPACITY OR COVERAGE.

43. Data from both AT&T and T-Mobile indicate that traffic volume increases when network capacity increases. This should be unsurprising to any user of wireless services since better network performance permits, and encourages, the use of applications such as streaming video which require higher levels of bandwidth. There are a number of natural experiments demonstrating this effect.

44. Available data indicate the growth in data traffic accelerated following the deployment by AT&T of additional equipment to increase network capacity **[BEGIN CONFIDENTIAL INFORMATION]**

59. Hogg Declaration, ¶62.
60. Hogg Declaration, ¶57.
61. Hogg Declaration, ¶63.

[END CONFIDENTIAL INFORMATION]. See Figure 2.

The dotted line represents the growth in data traffic projected by extrapolating trends observed prior to the deployment of the additional equipment. As the figure shows, actual usage increased faster post deployment.

Figure 2

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45. A second example comes from the introduction of femtocells by AT&T. As discussed above, femtocells are short ranged antennas used to improve coverage in or single residences or offices. In 2009, AT&T compared the growth in minutes of use and megabytes of data used between subscribers

with these devices. As shown in Figure 3, AT&T found that the additional coverage and quality provided by the femtocells resulted in more rapid growth in network usage.

Figure 3

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46. A third example comes from AT&T's upgrade of the backhaul at its cell sites. The capacity at some cell sites may be limited by the cell site's connection to the rest of the network (the backhaul). In those cases, upgrading the backhaul will increase the network's capacity. AT&T has found that data volume at cell sites two weeks after a backhaul upgrade was between **[BEGIN CONFIDENTIAL**

INFORMATION] **[END CONFIDENTIAL INFORMATION]** percent higher than the volume two weeks before the upgrade.[62] See Figure 4.

Figure 4

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62. The AT&T analysis, which reports total traffic volume in two adjacent two-week intervals, can be interpreted as measuring the percentage change in average traffic volume over a two-week period. While traffic volume is growing throughout each two-week interval, the average over each period approximates the daily traffic volume in the middle of the period. The AT&T analysis thus is interpreted as a "two-week" growth rate because there are two weeks between the mid-point of the "before" and "after" intervals evaluated. The AT&T study reported in Figure 4 did not analyze growth in traffic volume in benchmark areas. However, we have constructed an approximate benchmark that reflects the average two-week growth rate for AT&T data traffic in 2010. AT&T's average 2-week traffic growth in 2010 was **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** percent. Thus, traffic volume in all areas analyzed by AT&T, except perhaps L.A., was greater than this conservative benchmark. This benchmark is conservative because it includes capacity growth due to backhaul upgrades systemwide and thus understates the growth caused by the identified backhaul upgrades.

47. T-Mobile USA has had a similar experience with increases in capacity resulting in increased network usage. T-Mobile USA has analyzed traffic volume in its Philadelphia and New England regions over the period in which T-Mobile USA was upgrading backhaul by running optical fiber to its cell sites. The traffic in the two areas had been at similar levels prior to the upgrades, but T-Mobile USA began upgrading sites in Philadelphia roughly six months prior to New England, and traffic in Philadelphia grew substantially faster than in New England. See Figure 5.

Figure 5

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3. AT&T AND T-MOBILE USA DATA INDICATE THAT CHURN RATES ARE LOWER WHEN SUBSCRIBERS HAVE HIGHER QUALITY SERVICE.

48. AT&T and T-Mobile USA have both looked at how voluntary churn rates vary with signal strength at subscribers' homes. The results of AT&T's 2009 analysis are given in Figure 6, and the results of T-Mobile USA's 2010 analysis are given in Figure 7. In each case, the companies generally found that the better the signal strength at subscribers' homes, the lower the churn. Similar results have been found by the companies with respect to other quality metrics such as dropped calls and coverage.[63] As these results indicate, consumers value higher service quality which translates into reduced churn. The proposed transaction promises to improve service quality by increasing network capacity and by reducing the average distance between many subscribers and cell towers, which, among other factors, is a key determinant of signal strength.

63. AT&T and T-Mobile USA data.

Figure 6

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Figure 7

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49. Not surprisingly, improving service quality has been found to generally result in lower churn, which provided the rationale for AT&T's program of offering free femtocells among subscribers in areas identified as having poor in-home service quality. AT&T has found that subscribers that did not receive a femtocell churned at a **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent rate per month but that similar subscribers that received microcells had improved quality which reduced churn rates to **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent per month.[64]

64. AT&T data.

50. Professor Salop and two of his co-authors reached a similar conclusion in their filing on behalf of the Sprint/Nextel merger, stating that "improvements in service quality likely will reduce subscriber churn, thus reducing the cost incurred by Sprint Nextel in acquiring and retaining subscribers. This will give the merged company the incentive and ability to reduce the prices that it charges."[65]

F. THERE IS NO BASIS FOR CONCERN THAT WIRELESS SERVICE IS A NATURAL MONOPOLY.

51. Dr. Lee Selwyn, on behalf of the Ad Hoc Telecommunications Users Committee, does not dispute that the efficiencies generated by the transaction are real and significant, but claims that they will not be passed along to consumers stating that "[t]here is no assurance that any of these gains will be flowed through to the ultimate consumer in the form of price reductions that are greater than they would have otherwise been in the absence of the merger of these two carriers."[66] More generally, Dr. Selwyn argues that the efficiencies demonstrate that the wireless industry is a natural monopoly which should be regulated.[67] Neither of Dr. Selwyn's arguments has any economic basis.

52. Dr. Selwyn's claim that consumers would not benefit from the efficiencies generated by this transaction is inconsistent with basic economic theory. Even a monopolist that realizes cost reductions as a result of efficiency gains will lower prices in response to a reduction in marginal cost.[68] That is, a monopolist – which by definition faces no pressure from competitive rivals – will find it profitable to lower prices in response to reductions in marginal costs. Moreover, it is completely consistent with economic theory to expect that a monopolist that faces a capacity constraint will expand output and lower price in response to an efficiency gain that increases its capacity. AT&T, of course, is not a monopolist and would be far short of monopoly even using the national market share figures

65. Besen, Salop and Woodbury Joint Declaration, p. 12.
66. Selwyn, ¶11.
67. Selwyn, ¶¶38-39.
68. Dennis W. Carlton & Jeffrey M. Perloff, Modern Industrial Organization (4th edition), p. 571.

advanced by merger opponents. It will continue to face competition from a number of rivals resulting in further incentive to lower price in response to marginal cost reductions.

53. Dr. Selwyn's claim that the efficiencies generated by the transaction demonstrate that the wireless industry is a natural monopoly is also without basis in economics. The existence of economies of scale or scope associated with a merger in a particular industry is common and does not imply that the industry is a natural monopoly even when these economies are substantial. Instead, the existence of merger-specific efficiencies implies that the merged firm has an incentive to increase output and lower price to the benefit of consumers.

54. Dr. Selwyn notes that a natural monopoly is associated with "the persistence of decreasing average costs to a level of output approaching total market demand."[69] However, AT&T's share, however measured, is far short of total market demand, and the existence of economies of scale or scope at its size does not demonstrate that such economies would persist at far higher levels of output or that a merger to monopoly would be justified on efficiency grounds. Even if a merger to monopoly was justified on efficiency grounds, the diminution in competition from a merger to monopoly would have to be weighed against these efficiency gains.

III. OPPONENTS' ANALYSES OF UNILATERAL AND COORDINATED EFFECTS FAIL TO ADEQUATELY ACCOUNT FOR MERGER-RELATED EFFICIENCIES AND THE DYNAMIC NATURE OF WIRELESS COMPETITION.

A. SUMMARY OF CLAIMS

55. Opponents argue that the proposed transaction harms consumers through both "horizontal" and "vertical" effects. These arguments are most thoroughly developed in the CRA Declaration. With respect to horizontal concerns, they argue that the loss of T-Mobile USA as an

69. Selwyn, ¶38 (emphasis added).

independent competitor creates both unilateral incentives to raise price and increased risk of coordinated interaction. With respect to vertical concerns, they argue that the proposed transaction enables AT&T to raise a variety of its rivals' costs and that these higher costs, in turn, further increase risks of anticompetitive unilateral and horizontal effects.[70] They argue that the combination of these effects would effectively result in a wireless "duopoly" dominated by AT&T and Verizon Wireless.

56. This section focuses on opponents' horizontal claims, recognizing that those claims cannot be entirely separated from opponents' vertical concerns, which are addressed in the following section. Specifically, opponents argue that the merger raises concerns about unilateral effects and CRA offers its estimates of the Gross Upward Pricing Pressure Index ("GUPPI") and Compensating Marginal Cost Reduction ("CMCR") needed to offset increases in upward pricing pressure created by the proposed transaction.

57. With respect to coordinated effects, CRA argues that the proposed transaction would facilitate both "parallel and accommodating conduct and effects" and "common understanding" that are likely to result in higher prices. CRA argues that coordination is facilitated by the similarity of AT&T and Verizon Wireless' focus on retail postpaid and business services, the transparency of pricing, low buyer concentration, and the presence of barriers to entry and expansion.[71]

58. Opponents' claim that other industry participants, including Sprint, MetroPCS, Leap, U.S. Cellular, and others, would not constrain unilateral and coordinated effects created by the merger is based in part on their views that (i) the relevant geographic market for wireless services is national in scope and firms that do not operate "nationally" do not constrain the price of AT&T's service; and (ii)

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70. To the extent that CRA and others are claiming that "horizontal" competitive concerns arise only as a result of "vertical" effects (such as the impact of the transaction on AT&T's ability to raise rivals' costs) then there is no basis for such horizontal concerns. Section IV addresses vertical concerns and shows that the proposed transaction does not enable AT&T to materially raise costs faced by rivals or to harm competition by related vertical effects.

71. CRA, ¶179.

"postpaid" services are a distinct product market and many of these firms offer "prepaid" (or non-contract) services.[72] CRA also argues that it is appropriate to analyze the proposed transaction using a wide variety of product and geographic market definitions, including both local and national.[73] CRA, for example, reports a variety of market share and HHI calculations for various local geographic areas.

59. In this section, we show that opponents' claims that the proposed transaction would harm competition as the result of either unilateral effects or coordination between market participants fail to adequately account for (at least) two critical factors that offset such concerns: the efficiencies generated by the proposed transaction and the dynamic nature of competition in the wireless industry.

- There is no basis to concerns that the proposed transaction would result in carriers exiting the wireless business or further consolidating. To the contrary, the economic logic of Sprint's claims implies that it and other competitors should, if anything, benefit from the proposed transaction. The success of Sprint, MetroPCS, Leap and other carriers in gaining subscribers and share is evidence that they are viable firms and provide competition to AT&T.
- As discussed in our prior declaration and in Section II above, the proposed transaction will benefit consumers by expanding the output and quality of the services AT&T and T-Mobile USA will offer. These consumer benefits are independent of the scope of the product and geographic markets and, as a result, the precise definitions of the product and geographic markets are not central to the evaluation of the proposed transaction.

72. CRA, ¶¶38-44; MetroPCS Petition, pp. 17-18; Leap Petition, p. 10.

73. CRA at ¶34 states that "the merger could be analyzed in any or all of a number of relevant product markets or sub-markets, or market segments of more broadly defined markets." CRA goes on to define alternative retail product markets consisting of all-wireless service, postpaid and prepaid wireless service, wireless service to corporate and governmental accounts. CRA also defines wholesale and input markets that include wholesale wireless service to resellers, backhaul services, and roaming services, and argues that the proposed transaction "should be analyzed at the national level, in addition to the local level."(¶57)

B. OPPONENTS' CLAIMS ABOUT HARM TO COMPETITION PARADOXICALLY IMPLY THAT RIVALS WOULD BENEFIT FROM THE PROPOSED TRANSACTION.

60. Before addressing specific aspects of opponents' claims, it is important to recognize the paradoxical nature of competitors' claims that the proposed transaction will create a "duopoly" and raise prices of wireless services. Their claims are paradoxical because if the proposed transaction resulted in higher prices, AT&T's rivals would benefit by gaining an opportunity to add subscribers by undercutting the higher prices that the alleged duopolists would charge. Opponents, of course, attempt to respond by arguing that the proposed transaction would raise their costs. But as discussed in Section IV below, the claimed increases in costs for special access, roaming and handset acquisition, are speculative, unsupported, and, if they exist at all, would be small in magnitude.

61. An alternative explanation for complaints by several wireless carriers that oppose the merger is that the proposed transaction would create a more efficient rival that will be more successful in competing for customers. To the extent that the proposed transaction creates a more effective competitor that expands output and improves service quality, this outcome should be recognized as promoting consumers' interests even if it means that rival carriers lose some business.

62. Another possible explanation for Sprint's opposition to the proposed transaction is suggested by CRA's argument that the proposed transaction "would eliminate the possibility that Sprint and T-Mobile could overcome their disadvantages, either individually or by combining forces in some way …"[74] This argument suggests that Sprint's opposition to the proposed transaction is motivated, at least in part, by the loss of a potential merger partner. It has been reported that Sprint was engaged in negotiations with Deutsche Telekom for the purchase of T-Mobile USA prior to the announcement of

74. CRA, ¶123.

the proposed transaction.[75] CRA's argument suggests that merger enforcement officials should play an active role in guiding merger activity, denying one efficiency-enhancing merger in the hopes that another might arise that the officials might prefer. Such an approach would be a significant departure from historical practice in merger reviews.

C. EVALUATION OF THE PROPOSED TRANSACTION DOES NOT DEPEND ON THE PRECISE SCOPE OF THE PRODUCT OR GEOGRAPHIC MARKETS FOR WIRELESS SERVICES.

63. As discussed in our initial declaration and further above, the proposed transaction benefits consumers by increasing the combined capacity of AT&T and T-Mobile USA, which enables the merged firm to expand output and improve service quality. These outcomes result in unambiguous benefits to consumers which do not depend on the precise scope of the product and geographic markets for wireless services. Increases in output and service quality resulting from the proposed merger would benefit all types of customers across the combined network.

64. As explained in our prior declaration, while there are both national and local dimensions to competition in the provision of wireless services, it is appropriate for the Commission to follow its past practice and analyze the proposed transaction on an area-by-area basis. CRA's proposal to evaluate competition at both the national and local level appears to reflect a similar view of the complexities of wireless competition.[76] In this case, evaluation of the competitive effects of the proposed transaction at the local level is appropriate due in part to the local nature of capacity and quality efficiencies that the proposed transaction is expected to generate. These engineering-based efficiency gains can vary from area-to-area based on the current configuration of AT&T and T-Mobile USA networks and their capacity utilization, demand projections and other factors. Thus, an area-by-

75. Wall St. Journal, "T-Mobile Deal is a Marathon Not a Sprint," March 9, 2011 ("Shareholders of both companies should be encouraged by news that the two are talking about combining Sprint with Deutsche Telecom's T-Mobile USA.").

76. CRA, ¶57.

area analysis is required to fully understand the impact of the proposed transaction on consumer welfare.

65. However, as discussed in Section II above, the precise scope of the product market also is unimportant in evaluating the proposed transaction since the efficiencies generated by the transaction would be expected to benefit all types of consumers, including post-paid, pre-paid, voice and data, and business.

D. THE UNILATERAL EFFECTS ANALYSIS PRESENTED BY CRA DOES NOT PROVIDE A RELIABLE BASIS FOR EVALUATING THE COMPETITIVE IMPACT OF THE PROPOSED TRANSACTION.

1. CRA'S ANALYSIS FAILS TO PROPERLY ACCOUNT FOR THE MARGINAL COSTS FACED BY AT&T AND IMPROVEMENTS IN QUALITY EXPECTED TO RESULT FROM THE PROPOSED TRANSACTION.

66. Opponents argue that the proposed transaction raises unilateral effects concerns due to the loss of T-Mobile USA as an independent competitor and the weakening of the competitive position of Sprint and other carriers.[77] In support of this conclusion, CRA presents a "preliminary" and "illustrative" quantitative analysis of "upward pricing pressure" resulting from the proposed transaction.[78] They report calculations of the Gross Upward Pricing Pressure Index (GUPPI) as well as related measures of Compensating Marginal Cost Reductions (CMCR) attributable to the proposed transaction (collectively, "UPP analyses"). CRA estimates these indexes based on assumptions about (i) industry margins, (ii) diversion ratios, which reflect the rate at which customers lost by one firm as a result of a price increase are captured by the merging partner; as well as (iii) the percentage of customers leaving AT&T or T-Mobile USA that choose to drop wireless service altogether.

77. CRA, ¶124.
78. CRA, ¶¶145,149.

67. As a preliminary matter, it is important to note that UPP is not intended as a conclusive indicator of the potential competitive impact of a merger.[79] This is due to a variety of well-recognized theoretical and practical issues in measuring the UPP index.[80] For example, the UPP index is derived from "the assumption of classic, Bertrand static price setting behavior between the two merging firms."[81] If an industry does not conform to the Bertrand model of oligopoly, the positive UPP indexes do not necessarily imply that prices will rise.[82] The UPP index does not account for the ability of rival firms to reposition products in response to an attempt by a merging firm to increase price. UPP also does not account for "feedback effects" that relate the impact of marginal cost reductions on the price of other products, which can lead UPP to be overstated.[83] In addition, as discussed immediately below, a number of important measurement issues arise in implementing UPP that imply that it is likely to result in "false positive" conclusions about a merger's potential harm to competition.

68. We discussed some of the limitations of standard UPP analyses of the type undertaken by CRA in our initial declaration.[84] Principal among these limitations is UPP's reliance on accounting measures of *average variable costs* in calculating margins while the underlying economic logic of unilateral effects models depends on the *marginal cost* of serving additional subscribers. As we previously noted, marginal costs are likely to be much higher than the average variable cost when firms are operating at or near capacity. For example, Carlton noted in a 2010 paper that "[i]f one uses

79. Farrell & Shapiro, "Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition,"10 The B.E.J. Theoretical Econ. Art. 9 (2010) (See Abstract).
80. The practical and theoretical limitations of UPP are discussed in Dennis W. Carlton, "Revising the Horizontal Merger Guidelines," 6 Journal of Competition Law and Economics 619, August 2010, p. 624-5.
81. Farrell & Shapiro, "Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition,"10 The B.E.J. Theoretical Econ. Art. 9 (2010).
82. Dennis W. Carlton, "Revising the Horizontal Merger Guidelines," 6 Journal of Competition Law and Economics 619, August 2010, p. 643.
83. Dennis W. Carlton, "Revising the Horizontal Merger Guidelines," 6 Journal of Competition Law and Economics 619, August 2010, p. 648.
84. Carlton, Shampine & Sider Declaration, ¶¶141-145.

average variable cost as an approximation to marginal cost, then one runs the risk of overestimating margins (and market power), with the consequence that the UPP index will overestimate the incentive to raise prices post-merger, because average variable cost is often below marginal cost."[85]

69. In the wireless industry, the marginal cost of serving additional subscribers can include costs associated with deployment of (i) new carriers; (ii) construction of new cell sites; as well as (iii) deployment of high cost alternatives such as DAS networks, Wi-Fi systems and microcells. The use of historical data on average variable costs is likely to result in estimates of upward pricing pressure that significantly exceed those based on true marginal costs that AT&T and T-Mobile USA face today and in the future. The upward pricing pressure analysis presented by CRA does not attempt to account for the high marginal costs faced by AT&T or T-Mobile USA in congested areas today or the increases in marginal costs expected in the future due to higher output levels.

70. A further limitation of standard analyses of upward pricing pressure is their failure to account for improvements in product quality that result from a transaction. As discussed in the Hogg Declaration, the Hogg Reply Declaration, and in AT&T's public statements, a principal motivation for the proposed transaction is to improve the current and future quality of AT&T service.

71. The Department of Justice has recognized the importance of such service-related efficiencies in, for example, airline mergers. In reviewing the Northwest/Delta merger, the Department of Justice recognized the increase in consumer welfare resulting from scheduling improvements which, independently of price, enabled the airlines to expand output. The Department of Justice concluded that the merger improved consumer welfare because "the change in consumer welfare implied by the

85. Dennis W. Carlton, "Revising the Horizontal Merger Guidelines," 6 Journal of Competition Law and Economics 619, August 2010, p. 644.

predicted traffic changes […] significantly exceeded the feared harm to consumers in the overlap routes served by the two carriers." [86]

72. The role of merger-related changes in product quality was evaluated in a UPP framework in a recent paper by Professor Robert Willig. The paper establishes that if the sum of the increase in quality (measured as the percentage reduction in price that would bring consumers equivalent value) and the reduction in marginal cost (expressed as a percentage of price) is larger than the GUPPI, then the merger does not create upward pressure on the quality-adjusted price.[87] Professor Willig notes that, like reductions in marginal costs, improvements in product quality offset upward pricing pressure by reducing "quality-adjusted" prices. Thus, efficiencies expected from a merger that would raise product quality and/or lower marginal costs work to offset upward pricing pressure that originates from demand diversion between the merging parties' products.

73. CRA does not account for quality improvements in their upward pricing pressure analyses despite the importance of quality improvements both to consumer welfare and as a factor motivating the proposed transaction. For example, CRA states that "AT&T's claimed benefits can only be significant in areas that face serious congestion problems, and only if and when those congestion problems occur."[88] As discussed above, this statement is incorrect when considering quality benefits, which can occur in both congested and uncongested areas due to improvements in network coverage and improved signal strength in all areas. Again, Professor Salop himself noted this potential improvement in the Sprint/Nextel merger. CRA's UPP analyses overstate upward pricing pressure resulting from the merger by failing to account for merger-related improvements in product quality.

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86. Ken Heyer, Carl Shapiro and Jeffrey Wilder, "The Year in Review: Economics at the Antitrust Division, 2008-2009," Review of Industrial Organization, November 2009, §2.3.
87. Robert Willig "Unilateral Competitive Effects of Mergers: Upward Pricing Pressure, Product Quality, and Other Extensions", February 1, 2011.
88. CRA, ¶169

74. As discussed above, improvements in network quality are highly valued by consumers and are reflected in lower churn rates in areas where both AT&T and T-Mobile offer higher quality service. Moreover, the capacity gains expected to result from the transaction, which equivalently reflect new spectrum "created" by the proposed transaction, are likely to be large and reduce the marginal cost of producing current and increased future output for the merged network. Put simply, the UPP analyses presented by CRA are unreliable because they fail to account for marginal cost reductions and quality improvements resulting from the proposed transaction.

2. SPECIFIC COMMENTS ON THE UPWARD PRICING PRESSURE ANALYSES PRESENTED BY CRA

75. This section comments in greater detail on the upward pricing pressure analyses presented by CRA. We show that, in addition to failing to account for quality improvements resulting from the proposed transaction, they are based on several assumptions that tend to overstate the upward pricing pressure created by the transaction or the marginal cost reductions required to offset upward pricing pressure. In the following section we present a simple and reasonable modification to the analysis presented by CRA that shows that the resulting GUPPI measure is close to the "safe harbor" thresholds identified in the Merger Guidelines. However, this modified measure does not account for quality improvements or more accurate measures of marginal costs faced by AT&T and T-Mobile today or in the future and thus overstates upward pricing pressure generated by the proposed transaction. The following comments apply to CRA's analysis of Single-Price GUPPI, Simultaneous-Price GUPPI, and CMCR.

Marginal Costs and Margins

76. As discussed in the accompanying Hogg Reply Declaration and the Reed and Tripathi Reply Declaration, wireless engineers design networks in order to meet the competing objectives of maximizing traffic volume and maintaining service quality (e.g., limiting blocked calls, dropped calls and

latency in data transmission). The measurement of marginal cost in the wireless industry raises a variety of significant complications due to, among other factors, the multiple alternatives that can be used to increase capacity. Other complicating factors include differences in spectrum holdings, measurement of costs (including capital costs), network utilization and projected growth in output in different areas.

77. CRA recognizes that they lack the information for accurately measuring the marginal costs and margins needed to yield reliable estimates of upward pricing pressure.[89] CRA nonetheless calculates a "standard" UPP analysis based on average variable costs which does not account for the high marginal costs that AT&T now faces in many parts of its network or the likely future marginal costs that AT&T and T-Mobile USA are expected to face. CRA's analysis also ignores the impact of the proposed transaction on product quality.

78. CRA's GUPPI analysis depends on three factors: (i) the diversion ratios between T-Mobile USA and AT&T; (ii) the incremental margin (which reflects average price minus incremental cost) for each firm; and (iii) the relative prices charged by the two firms. CRA estimates the GUPPI assuming two alternative assumptions about margins – 40.7 percent, which is AT&T's EBITA margin reported in a recent investor presentation, and a "less conservative" margin of 70 percent. They use diversion ratios that reflect "proportional diversion based on the all-wireless market share."[90] This simplifying assumption is based on the view that customers lost by the merging firm in response to a price increase are recaptured by other firms in proportion to their market shares.

79. CRA presents no basis for the 70 percent margin assumption, which apparently reflects a judgment based on their view that wireless service is characterized by "high fixed costs and low marginal costs" and that therefore "the margin of price over variable cost is very high."[91] However, this

89. CRA, ¶¶149, 157.
90. CRA, ¶153.
91. CRA, ¶155.

is not a correct characterization of the wireless industry. Wireless service is not like computer software, for example, in which development costs truly do not change as additional customers are added. To provide service (at a given quality level) to additional wireless subscribers or to serve additional usage by existing subscribers requires investment in additional capacity. In particular, given the ongoing growth in wireless traffic, AT&T, T-Mobile USA, and other wireless carriers continuously expand their network capacity. In this environment, each additional subscriber increases the required capacity, imposing an incremental network cost. The fact that such costs may be "lumpy"—occurring in large increments at particular points in time—does not mean they should be treated as fixed.

80. CRA's "low" margin estimate of 40.7 percent includes an accounting measure of average capital costs.[92] For the reasons discussed above, this figure is likely to understate marginal cost and thus overstate the appropriate margin for calculating GUPPI. The margin used by CRA will be overstated to the extent the incremental network capital costs exceed the average costs reflected in accounting data, as would be expected for wireless networks that face congestion today or in the future. As a result, GUPPI estimates presented by CRA are not appropriate for comparing price under the merger to that which would occur in its absence, in which congestion continues to grow and thus marginal costs rise and margins fall.

Diversion Ratios

81. The assumption of "proportional diversion" used by CRA is a common starting point in GUPPI analyses due to the difficulty of finding precise measures of the diversion ratios between firms. Diversion ratios are ideally based on experiments in which only one firm raised its price and one could observe the rate of switching to each other firm (as well as the rate at which consumers drop wireless service altogether). Absent such experiments, available market-share based measures of proportional

92. It is well known that accounting measures of capital cost do not reflect the economic cost. Dennis W. Carlton & Jeffrey M. Perloff, Modern Industrial Organization (4th edition), p. 247.

diversion are at best noisy approximations to true diversion ratios. In computing diversion ratios, it is also necessary to account for the possibility that subscribers may drop wireless service altogether in response to a price increase by the merging firm, and CRA calculate GUPPIs under a range of alternative assumptions of "recapture" rates, alternatively assuming that 60, 80, 100 percent of those subscribers leaving a firm due to a price increase switch to another wireless provider instead of dropping wireless service altogether.

82. While CRA's consideration of a range of "recapture rates" is appropriate, CRA does not use a range of estimates to allow for uncertainty in the market shares used in evaluating GUPPI and CMCRs. Instead, CRA focuses on a single measure based on estimates of wireless firms' subscriber shares based on public data sources. This reflects one of many possible ways to estimate this component of diversion ratios which, as mentioned above, ideally would be estimated based on data relating a carrier's subscriber levels to prices. A reasonable alternative to CRA's use of subscriber shares in estimating diversion ratios is to base these estimates on wireless carriers' share of "gross adds"—new subscribers recently attracted to wireless carriers. Data on "gross adds" are available from AT&T and we have computed diversion ratios on this basis for the 12 months ending in March 2011.[93] These data reflect an alternative, and more current, view of consumers' response to a merger-related price increase and are incorporated into the modification reported below of the estimates of CRA's upward pricing pressure analysis.

CMCR

83. CRA calculates measures of Compensating Marginal Cost Reductions (CMCRs). As CRA notes, "the CMCRs measure the marginal cost reductions for each of the two merging parties that would

93. To eliminate the specialized circumstances surrounding recent iPhone introductions, we omit the three months following these introductions (June – August, 2010; February-March, 2011) from this calculation.

have to occur simultaneously for the net pricing pressure to be zero for each of the merging firms' product post merger."[94]

84. As a preliminary matter, we note that it is not correct to say that efficiencies as large as the CMCRs are required for *both* firms in order to offset upward pricing pressure. In particular, efficiencies for one firm that are larger than the CMCR will put downward pressure on its price as well as the quality adjusted prices of other firms, so that efficiencies smaller than CMCR for the other firm can still be sufficient to keep prices from rising. For example, if due to congestion in the AT&T network, the combined quality and cost efficiencies for AT&T are larger than the CMCR, efficiencies below the CMCR for T-Mobile USA could still be sufficient to keep prices from rising. Thus, the CMCR metric may be misleading as an indicator of whether the efficiencies generated by this merger are sufficient to offset upward pricing pressure resulting from a merger.

85. In addition, as discussed further above, merger-related improvements in quality have the effect of reducing quality-adjusted price, and thus have an impact similar to merger-related cost reductions in offsetting upward pricing pressure resulting from a merger. This again implies that the CMCR metric as calculated by CRA is likely to overstate the reductions in marginal cost required to offset upward pricing pressure resulting from a merger.

3. EFFECT OF MODIFICATIONS TO THE CRA ASSUMPTIONS

86. Table 4 presents measures of the single-price GUPPIs and CMCRs making a change to the diversion ration used by CRA.[95] While we report this modification to CRA's calculations, for the reasons already discussed we do not endorse the use of even these revised calculations as indicators of the upward pricing pressure likely to result from the proposed transaction.

94. CRA, ¶150.

95. To facilitate comparisons between GUPPIs and CMCR, we express CMCRs as a percentage of price. CRA instead presents CMCRs calculated as a percentage of marginal cost.

87. The modified calculation uses diversion ratio estimates based on "gross adds" instead of subscriber shares. As discussed above, gross adds reflect subscribers recently attracted to wireless carriers. Based on this modification, the GUPPI estimates ranged between **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent and **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent for AT&T and between **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent and **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent for T-Mobile USA. Even without attempting to account for true marginal costs faced by AT&T and T-Mobile USA or quality improvements expected to result from the proposed transaction, these results are not very far from the threshold that is used at the Antitrust Division in determining whether GUPPI levels raise unilateral effects concerns.[96]

Table 4

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96. Carl Shapiro, Deputy Asst. Attorney General for Economics, Antitrust Div., U.S. Department of Justice, Update from the Antitrust Division: Remarks as Prepared for the American Bar Association Section of Antitrust Law Fall Forum, at 24 (Nov. 18. 2010) ("…[U]nilateral price effects for a given product are unlikely if the gross upward pricing pressure index for that product is less than 5 percent."), available at http://www.justice.gov/atr/public/speeches/264295.pdf)

88. This modification of CRA's calculations shows that even minor modifications bring them close to safe harbor levels. We stress again, however, that we do not endorse this approach because, among other things, CRA's use of accounting margins fails to reflect the high marginal cost of expanding output in many areas today and in the future. These calculations also fail to account for any improvements in service quality, which offsets any upward pricing pressure that might be created by the transaction.

89. As a result, even these modified calculations are not appropriate indicators of unilateral effects likely to result from the proposed transaction. But the relatively low value of these indexes underscore our conclusion that the transaction is likely to benefit consumers. Measures of upward pricing pressure of the type reported by CRA do not account for the significant efficiencies expected from the transaction and the feedback effects of these efficiencies on prices. They also do not account for quality improvements expected to result from the proposed mergers, which have the effect of lowering estimates of upward pressure on quality adjusted prices (the appropriate metric for analyzing the effect of the transaction on consumer welfare). Moreover, to the extent that there are local variations in prices due to factors such as variations in handset subsidies, switching bonuses and other factors, CRA's use of national shares may provide a misleading view of upward pricing pressure created in local areas.

E. OPPONENTS FAIL TO ADDRESS A VARIETY OF INDUSTRY CHARACTERISTICS THAT RENDER COORDINATED EFFECTS UNLIKELY.

1. THE WIRELESS INDUSTRY CONTINUES TO BE CHARACTERIZED BY A VARIETY OF FACTORS RECOGNIZED AS COMPLICATING COORDINATED INTERACTION.

90. Our initial declaration identified a variety of reasons why the proposed transaction will not necessarily raise issues about risks of coordinated interaction among wireless carriers. These

include differences in business strategies across carriers, the multi-dimensional nature of service plans, the rapid pace of technological change in the industry and differences in geographic coverage across carriers. CRA argues that wireless services will be vulnerable to coordination after the merger, and disagrees with our characterization. CRA claims that Verizon Wireless and AT&T are "similarly situated"[97] and that competitive harm due to coordinated effects need not involve coordination with smaller carriers.[98] CRA also highlights barriers to entry and expansion and other factors. As discussed in more detail below, we disagree with several of these characterizations.

91. As a starting point in evaluating these claims, it is important to note that three of Sprint's economists held very different views of the extent to which the wireless industry was amenable to coordination in their 2005 declaration in support of Sprint's proposed merger with Nextel.[99] At that time, Professor Salop, Dr. Besen and Dr. Woodbury observed:

> Moreover, the reduction in the number of firms and increase in concentration is not by itself a sufficient basis for concluding that coordinated interaction is likely in a market like this with no history of coordination.[100]
>
> Although carriers monitor each other's prices, reaching and enforcing an agreement may be complicated by the complexity of pricing plans. For example, we understand that Nextel has at least 25 plans available to consumers and that, within each plan, there are numerous options involving factors as the size and composition of the minutes in the "bucket" and the charges for overages. [101]
>
> Significant asymmetries will remain after the merger of Sprint and Nextel. Products will remain differentiated. [102]
>
> Coordinated interaction is less likely to succeed in wireless telephony because of the dynamic nature of the market. The wireless market has been, and continues to be, in the process of technological change as carriers deploy 2.5G and 3G services …[103]

97. CRA, ¶179.
98. CRA, ¶180.
99. Besen, Salop and Woodbury Joint Declaration.
100. Besen, Salop and Woodbury Joint Declaration, p. 48.
101. Besen, Salop and Woodbury Joint Declaration, p. 49.
102. Besen, Salop and Woodbury Joint Declaration, p. 49.

> Investments in these markets are quite lumpy. This is the kind of dynamic environment that is not conducive to successful tacit coordination. [104]

92. We agree with the comments made by Sprint's economic experts at the time of the Sprint/Nextel merger. There is no reason to conclude that the likelihood of coordination has increased materially over the past six years or that the proposed transaction would have a material effect on coordination efforts. Since 2005, wireless service has become increasingly complex with the growing importance of data services. As a result, the related issue of service quality has taken on increased importance and implies that coordination today would need to involve considerations of service quality as well as price. Coordination has become further complicated by the growing differentiation across carriers with respect to handsets made available to subscribers (e.g., how does the Sprint EVO 4G compare to AT&T's Blackberry Torch). The divergence in data pricing models across carriers, with AT&T offering tiered pricing for data services while several carriers offer various forms of "unlimited" pricing provides further evidence of the lack of coordination today and the difficulty of future coordination. Finally, as Professor Salop, Dr. Besen and Dr. Woodbury noted, rapid technological change complicates coordinated interaction. The rapid evolution of smartphones and the deployment of LTE are important examples of the rapid pace of technological change in recent years and the difficulty of coordinated interaction under these conditions.

93. The role of merger-specific efficiencies is also critical to the evaluation of the likelihood of coordinated interaction from the proposed transaction. Professor Salop, Dr. Besen and Dr. Woodbury noted in their 2005 comments in support the Sprint Nextel merger that:

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103. Besen, Salop and Woodbury Joint Declaration, p. 49.
104. Besen, Salop and Woodbury Joint Declaration, pp. 49-50.

> The efficiencies created by the Sprint-Nextel merger will make coordinated interaction less likely. By reducing its costs, the newly merged firm will have a greater incentive to deviate from a proposed coordinated outcome and expand its output instead.[105]

As discussed above, efficiencies generated by the proposed transaction will significantly reduce the marginal cost faced by AT&T. As a result, AT&T's incentives to expand output are likely to be greater than those faced by other market participants with higher marginal costs. As Sprint's experts have noted in the past, these difference "make coordinated interaction less likely."

2. OPPONENTS UNDERSTATE THE IMPORTANCE OF MULTI-AREA AND REGIONAL COMPETITORS IN COMPLICATING COORDINATED INTERACTION.

94. Opponents dismiss the competitive significance of multi-area and regional firms including MetroPCS, Leap, US Cellular, Cellular South and others due in part to their lack of a national footprint. This is based in part on the claim made by many opponents that the market for wireless services is national in scope and the fact that these carriers do not have national footprints. However, AT&T faces at least one non-national carrier in areas that account for over **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent of the population that it serves.[106] These multi-area and regional carriers reduce the likelihood of coordinated interaction because attempts by AT&T to raise "national" prices can result in the loss of customers in virtually all areas. Moreover, as discussed in our prior declaration, subscribers of multi-area and regional networks generally offer "nationwide" pricing (that do not include supplemental roaming charges), which further increases the ability of these carriers to compete with AT&T and other firms with larger network footprints. Professor Salop, Dr. Besen and Dr. Woodbury also referred to regional carriers as constraining coordination in their 2005 filing on behalf of Sprint Nextel.[107]

105. Besen, Salop and Woodbury Joint Declaration, p. 51.
106. AT&T data.
107. Besen, Salop and Woodbury Joint Declaration, pp. 48, 50.

95. CRA claims that small GSM carriers will be harmed by the transaction because their roaming rates will rise and that, as a result, competition at retail will be diminished.[108] We explain in the next section why the concern about increases in roaming rates is misplaced. We note here that CRA's claim that retail competition will be adversely affected can be true only if small GSM carriers influence competition. CRA is inconsistent when it claims that small carriers are unimportant retail competitive forces (when they discuss coordinated effects) but are important retail competitive forces when they evaluate vertical effects.

96. Opponents' claims that multi-area and regional carriers are not important factors complicating coordinated interaction are inconsistent with past AT&T responses to local economic conditions. The accompanying Christopher Reply Declaration describes a variety of examples of AT&T responding to local competitive conditions through geographically based handset subsidies and special promotions targeted at geographically concentrated groups.[109] Mr. Christopher's declaration explains that AT&T has run over **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** handset promotions in the last **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** months, including, for example, accelerating subscribers' eligibility time for upgrades and special discounts on particular models. Additional responses by AT&T to local competition have included offering geographic-specific rebates, credits, fee waivers, and bonus minutes.

97. AT&T "porting" data are also inconsistent with opponents' claims that multi-area and regional carriers are not important competitors to national carriers. In the ordinary course of business, AT&T tracks the extent to which customers switching to a new carrier "port" (i.e., retain) their existing

108. CRA, ¶100.
109. See Reply Declaration of David Christopher, June 10, 2011.

phone number.[110] If opponents are correct that non-national and non-contract firms do not constrain AT&T, one would expect there to be little "porting" between AT&T and these firms. However, available data indicate that there is substantial "porting" between AT&T's contract service customers and non-contract carriers and that the extent of such porting is increasing over time.

98. As shown in Table 12, among AT&T post-paid subscribers that have ported to other carriers, the share switching to the "All You Can Eat" ("AYCE") carriers (principally MetroPCS and Leap) has grown from **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent in 2007 to **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent in the first four months of 2011, an increase of **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent. Similarly, among customers that have transferred their phone numbers to AT&T, the share accounted for by the AYCE carriers has increased from **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent in 2007 to **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent in the first four months of 2011, an increase of **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent.

99. The switching behavior of AT&T post-paid customers to AYCE carriers is roughly in proportion to ACYE carriers' share of (non-AT&T) wireless subscribers. For example, as shown in Table 5 in the first four months of 2011, AYCE carriers accounted for **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent of (non-AT&T) wireless subscribers and **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent of AT&T post-paid port outs. This suggests that many AT&T post-paid customers view the AYCE carriers as a substitute for AT&T's wireless services.

110. Not all additions or disconnects involve a change of phone number. Therefore, net "ports" will be a subset of subscribers switching carriers in any time period.

Table 5

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100. The growing competitive importance of AYCE carriers is further reflected in AT&T data which show that more AT&T post-paid subscribers now port to AYCE carriers than AYCE subscribers port to AT&T. This trend is reflected in the "porting ratio" reported in Table 5, which reflects the ratio of (i) subscribers that port to AT&T post-paid services from AYCE carriers to (ii) subscribers that port from AT&T post-paid services to AYCE carriers. A ratio greater than one indicates a flow into AT&T, a ratio below 1 reflects a flow away from AT&T. Table 5 shows a **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** in that flow over recent years. In 2007, **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** subscribers ported into AT&T post-paid services from AYCE for each post-paid AT&T subscriber that ported to an AYCE carrier. This

ratio has fallen every year since 2007 and in the first four months of 2011, only **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** subscribers ported into AT&T post-paid service from AYCE for each post-paid AT&T subscriber that ported to an AYCE carrier.[111]

3. THE RECENT SUBSCRIBER GAINS OF AT&T'S RIVALS HIGHLIGHT THEIR COMPETITIVE SIGNIFICANCE.

101. Our prior declaration highlighted the competitive significance of AT&T rivals such as Sprint, MetroPCS, and Leap/Cricket and showed that they have been gaining customers and subscriber share and expanding the scope of the services they provide.[112] The strong recent performance of these firms is confirmed by AT&T data which indicate that, from March 2010 to March 2011, Sprint gained 3.0 million subscribers, an increase in its subscriber base of 6 percent. (See Table 6.) Over the same period, MetroPCS gained **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** subscribers, a **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent increase, and Leap gained **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** subscribers, an increase of **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent. In comparison, total industry subscribers increased **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent over this period.

111. We understand that these data may even underestimate the number of subscribers that switch from AT&T to an AYCE carrier as these subscribers tend to leave their number behind after the move and, therefore, would not be reflected in AT&T's measures of porting behavior.

112. Carlton, Sider & Shampine Declaration, §IV.B.2, IV.B.3 and IV.B.4.

Table 6

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102. Since our initial declaration was filed, Sprint, MetroPCS, Leap and U.S. Cellular have each reported that they are continuing to expand and improve performance.

Sprint

103. Our initial declaration showed that Sprint added a substantial number of subscribers in 2010 and that Sprint now provides WiMax (4G) services that cover 112 million people.[113] In its May 13, 2011 earnings call, Sprint stated that its subscriber levels continued to grow and that its customer churn continued to fall. Sprint's CEO stated that "[f]or the fourth consecutive quarter, the Sprint brand was the fastest-growing national postpaid wireless brand in the country as measured by net subscriber growth."[114] He further stated that Sprint "registered our best postpaid churn number ever and the best

113. Carlton, Sider & Shampine Declaration, ¶¶96-100.
114. Sprint Nextel's CEO Discusses Q1 2011 Results, Earnings Call Transcript, May 13, p. 3.

year-over-year improvement we've made in quarterly churn in 5 years."[115] He also described Sprint's plans to continue to invest billions of dollars in upgrading its network and services, noting that the "total incremental cost to the Network Vision program over the estimated 3- to 5-year deployment period is expected to be between $4 and $5 billion."[116]

MetroPCS

104. Our initial declaration showed that MetroPCS has been attracting a rapidly growing number of subscribers, expanding its coverage and rolling out LTE service.[117] In its May 3, 2011 earnings call, MetroPCS reported that it continues to add customers and reduce churn, as well as highlighting the continued expansion of its network and the increase in its smartphone sales. MetroPCS' CEO stated that the "[f]irst quarter was a record quarter for the company. We recorded the highest net subscriber additions in company history…"[118] He further noted that in 2011 Q1 MetroPCS recorded its lowest ever "churn of 3.1 percent, down 60 basis points from last year's first quarter."[119] He stated that MetroPCS has "introduced 4G LTE service in all of our major metropolitan areas. Our 4G network is performing well, and we continue to expand our footprint within the markets and expect to complete the majority of the buildout by the end of 2011."[120] He also noted that "Android handsets have been very popular with our subscribers, representing approximately 30 percent of gross additions in the first quarter."[121]

Leap

105. Our initial declaration showed that Leap now accounts for more than **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent of subscribers in 26

115. Sprint Nextel's CEO Discusses Q1 2011 Results, Earnings Call Transcript, May 13, p. 3.
116. Sprint Nextel's CEO Discusses Q1 2011 Results, Earnings Call Transcript, May 13, p. 7.
117. Carlton, Sider & Shampine Declaration, ¶¶104-107.
118. MetroPCS Communications' CEO Discusses Q1 2011 Results, Earnings Call Transcript, May 3, 2011, p. 2.
119. MetroPCS Communications' CEO Discusses Q1 2011 Results, Earnings Call Transcript, May 3, 2011, p. 2.
120. MetroPCS Communications' CEO Discusses Q1 2011 Results, Earnings Call Transcript, May 3, 2011, p. 3.
121. MetroPCS Communications' CEO Discusses Q1 2011 Results, Earnings Call Transcript, May 3, 2011, p. 3.

DMAs and highlighted Leap's recent success in attracting smartphone users.[122] In its May 4, 2011 earnings call, Leap reported continuing strong smartphone growth and record-low customer churn, and announced details of it LTE deployments. Leap's CEO stated that it had "approximately one million customers that are now on a smartphone service plan, or nearly 20 percent of our base. […] In fact, about 40 percent of all of our new handset sales were smartphones."[123] He further noted improvements in Leap's churn rate, noting that "long-term churn is now down to 3.1 percent, led by voice churn of 2.8 percent, our best churn performance in a decade. […] Of all the changes we've seen in our business, the reduction in churn is without a doubt the most dramatic and we have continuing data that indicates these changes are, in fact, structural." [124] Additionally, Leap announced that it was deploying LTE services, and that "consumer-oriented, affordable LTE devices will become more broadly available later next year and we expect to be well timed with networks available to support this opportunity." [125] Leap also highlighted its LTE roaming agreement with LightSquared.

U.S. Cellular

106. Our initial declaration demonstrated that U.S. Cellular was in the process of upgrading the wide coverage of its EV-DO data network by deploying LTE service.[126] In its May 6, 2011 earnings call, U.S. Cellular announced that it was accelerating its LTE rollout noting that it "plan[s] to launch LTE in 24 markets by November, which will cover 25 percent to 30 percent of our subscribers." [127] U.S. Cellular stated that several LTE capable devices would be available for its network, stating that it was "working

122. Carlton, Sider & Shampine Declaration, ¶¶108-109.
123. Final Transcript, LEAP – Q1 2011 Leap Wireless International Inc. Earnings Conference Call, May 4, 2011, pp. 2-5.
124. Final Transcript, LEAP – Q1 2011 Leap Wireless International Inc. Earnings Conference Call, May 4, 2011, pp. 2-5.
125. Final Transcript, LEAP – Q1 2011 Leap Wireless International Inc. Earnings Conference Call, May 4, 2011, p. 8.
126. Carlton, Sider & Shampine Declaration, ¶¶112-113.
127. Telephone and Data Systems Inc. TDS (U.S. Cellular) Q1 2011 Earnings Call Transcript, May 6, 2011, p. 6.

very closely with OEMs and initially expect to have a number of different types of devices available at [LTE] launch, including a 4G smartphone, tablet, modem, MiFi device followed by a series of more models being introduced throughout 2012." [128] U.S. Cellular also reported that smartphones were becoming increasingly important for its subscriber base, as "[s]martphones have grown from about 17 percent of total devices that we sold in early 2010 to 42 percent in the first quarter of this year. […] Smartphones now represent almost 20 percent of our postpaid subscriber base compared to only 9 percent at the end of the first quarter of 2010." [129] Additionally, US Cellular reported improved churn rates, noting that "postpaid churn improved to 1.37 percent in the first quarter of this year from 1.41 percent last year." [130]

107. In conclusion, opponents' analysis of unilateral and coordinated effects fails to adequately account for merger-related efficiencies and the dynamic nature of wireless competition. Opponents' analysis of unilateral effects fails to account for the high marginal costs faced by AT&T and T-Mobile USA today and in the future as their networks approach spectrum exhaust. Their unilateral effects analysis also fails to account for quality improvements expected to result from the proposed transaction. Opponents' analysis of coordinated effects fails to recognize that the large efficiencies generated by the proposed transaction create strong differences in the interests of firms which make coordinated interaction unlikely. They also fail to recognize the competitive impact of "maverick" firms such as MetroPCS and Leap that have been successful in challenging AT&T and other national carriers and the role of these firms in complicating coordinated interaction.

128. Telephone and Data Systems Inc. TDS (U.S. Cellular) Q1 2011 Earnings Call Transcript, May 6, 2011, p. 6.
129. Telephone and Data Systems Inc. TDS (U.S. Cellular) Q1 2011 Earnings Call Transcript, May 6, 2011, pp. 5-7.
130. Telephone and Data Systems Inc. TDS (U.S. Cellular) Q1 2011 Earnings Call Transcript, May 6, 2011, p. 6.

IV. THERE IS NO BASIS TO OPPONENT'S CLAIMS THAT THE MERGER WILL HARM COMPETITION BY RAISING THE COSTS FACED BY RIVAL WIRELESS CARRIERS.

A. SUMMARY OF CLAIMS

108. As noted above, opponents argue that the proposed merger would enable AT&T to impose costs on rivals by raising the rates they pay for special access and roaming services. Opponents also claim that the proposed transaction would harm the ability of rivals to offer attractive handsets and will further raise rivals' financing costs. Opponents argue that the higher costs that wireless rivals would face would result in harm to competition. They also argue that this exacerbates the concerns about unilateral and coordinated effects described above. This section shows that there is no basis either to opponents' claim that (i) the proposed transaction would raise costs faced by rival wireless carriers, and (ii) that competition would be significantly harmed if the proposed transaction had the claimed impact on rivals' costs.[131] Briefly summarized, opponents make the following claims:

109. ***Special Access:*** Opponents claim that the proposed merger would create an incentive for AT&T to raise special access rates. T-Mobile USA is not a provider of special access services and the proposed transaction thus does not reduce competition in the provision of special access services. Opponents' competitive concern reflects the view that AT&T can use its (alleged) market power in the provision of special access services either alone or in coordination with Verizon Wireless to harm competition in a "downstream" market – wireless services.[132]

110. ***Handsets:*** Opponents claim that the proposed transaction would harm wireless competition by increasing AT&T's incentive to enter into exclusive relationships with handset manufacturers. They argue that the increase in AT&T's size relative to other carriers would create an

131. The accompanying Declaration of Robert Willig, Jon Orszag and Jay Ezrielev addresses in additional detail opponents' claims that the proposed transaction enables AT&T to raise rivals' costs and related "vertical" claims.

132. CRA, ¶¶96-98; RCA Petition, p. 21; MetroPCS Petition, p. 54.

incentive to bid more for exclusive handsets and that this would harm the ability of AT&T's rivals to offer attractive handsets and thus limit their ability to compete. Opponents also suggest that because of AT&T and Verizon's subscriber base post-transaction, handset manufacturers would no longer design and manufacture exclusive handsets for other competitors. [133]

111. ***Wholesale and Roaming Services:*** Opponents claim that the proposed transaction would harm competition in the provision of wholesale services sold to wireless resellers, MVNOs, in the provision of roaming services to rivals, and would limit AT&T's future incentive to offer LTE roaming services to other carriers.[134]

112. ***Financing Costs:*** Opponents argue that the impact of the proposed transaction on special access services, roaming costs, access to handsets and other factors would have a further adverse impact on the ability of AT&T's rivals to finance investments.[135]

B. THERES IS NO BASIS TO CLAIMS THAT THE PROPOSED TRANSACTION WOULD HARM COMPETITION BY RESULTING IN HIGHER SPECIAL ACCESS RATES.

113. Opponents' claims that the proposed transaction would harm competition by increasing costs faced by wireless carriers are inconsistent with available evidence which indicates (i) that wireless carriers typically have access to many alternative sources of special access services; (ii) that special access costs account for only a modest share of wireless carriers' costs, which indicates that these firms would remain viable and competition would not be significantly harmed even if, contrary to available evidence, special access prices did increase; and (iii) for those areas not served by many alternatives, AT&T special access services are subject to the Commission's price regulation.

133. CBW Petition, p. 30; MetroPCS Petition, p. 58; RCA Petition, p. 19.
134. CBW Petition, pp. 10-12; CRA, ¶¶99-101; Leap Petition, pp. 20-23.
135. CRA, ¶¶116-122; RCA Petition, pp. 23-24.

1. THERE ARE MANY PROVIDERS OF SPECIAL ACCESS SERVICES.

114. Opponents' arguments rest on the critical assumption that wireless carriers have little or no alternative to the special access services provided by AT&T for providing "backhaul" for their network traffic. If AT&T faces competition from other access providers, then attempts by AT&T to raise price or to degrade service quality would result in the loss by AT&T of special access business to rival providers. The increased volume of traffic generated by 3G network has led carriers to move to higher capacity special access services, which in turn expands the scope of providers that typically can compete to provide these services.

115. T-Mobile USA's recent experience in obtaining backhaul services from firms other than AT&T demonstrates that AT&T typically does not have the ability to raise special access price without losing a significant volume of business to other backhaul providers. Alternative suppliers include cable firms, microwave suppliers, CLECs and "alternative access vendors" ("AAVs") that operate fiber optic facilities that can interconnect with wireless carriers' facilities.

116. Since 2007, T-Mobile USA has undertaken efforts to expand backhaul capacity and lower backhaul costs by identifying and contracting with suppliers other than ILECs. These efforts have focused on T-Mobile USA's 3G-equipped sites, which account for more than **[BEGIN HIGHLY CONFIDENTIAL INFORMATION] [END HIGHLY CONFIDENTIAL INFORMATION]** percent of its current sites.[136] **[BEGIN CONFIDENTIAL INFORMATION]**

136. See Reply Declaration of David A. Mayo, June 10, 2011, p. 5.

[END CONFIDENTIAL INFORMATION].[137]

117. T-Mobile USA now contracts with more than a dozen providers of access services including **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION].[138] T-Mobile USA reports that in urban markets, fiber is abundant and that, even in fringe areas, T-Mobile USA has been able to obtain access services from alternative providers.[139] Parley Casto, AT&T's Assistant Vice President – Pricing – Business Marketing, reports that AT&T as **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** has lost to cable companies, microwave-based providers, fiber-based providers, CLECs and self-provisioning by Verizon Wireless.[140]

118. We are not aware of any reason that other wireless carriers would not be able to contract with a similar range of CLECs, cable firms and other access providers, especially as they expand deployment of broadband capacity. Indeed, some wireless carriers have made public statements that emphasize their ability to use non-ILEC special access services:

- As of January 2009, U.S. Cellular used microwave backhaul to connect approximately 37 percent of its cell sites.[141]
- As of late 2009, 90 percent of Clearwire's cell sites were connected through wireless backhaul.[142]

137. T-Mobile USA data.
138. T-Mobile USA data.
139. Declaration of David A. Mayo, p. 3.
140. Declaration of Parley Casto, p. 8.
141. Comments of AT&T Inc., in the Matter of Special Access Rates or Price Cap Local Exchange Carriers, WC Docket No. 05-25, January 19, 2010, p. 33.

- MetroPCS recently signed a contract with Bright House for fiber-based backhaul services in Orlando and Tampa Bay, Florida.[143] MetroPCS has also contracted with FiberTower for fiber-based and microwave backhaul services.[144]

2. OPPONENTS FAIL TO EXPLAIN WHY WIRELESS BACKHAUL OR EXISTING REGULATION WOULD NOT CONSTRAIN RATES AT SITES NOT ECONOMICALLY SERVED BY NON-ILECS.

119. In addition to fiber connections, microwave-based backhaul services often provide an economic alternative to ILEC-provided special access services at cell sites, such as those in rural areas that cannot necessarily be served economically by providers of fiber-based access services. According to one wireless backhaul provider, "[m]icrowave on the other hand offers carriers shorter set-up cycles and faster time to market" in rural areas because it can function over any terrain.[145] Microwave appears to be a viable alternative access source in suburban and rural areas.[146]

120. Also, opponents do not explain why regulation would fail to further protect consumers of special access service. ILEC-provided special access services are typically subject to price cap rules designed to ensure the reasonableness of prices for DS-1 and DS-3 services. Pricing flexibility is provided only where the Commission has determined that there is sufficient facilities-based competition. Thus, there is no basis to conclude that AT&T could significantly raise rates or degrade service at these sites as a result of the proposed transaction. If opponents are claiming that regulation is inadequate to constrain special access pricing in areas lacking sufficient alternative providers, they have failed to

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142. Kevin Fitchard, "Clearwire leans heavily on wireless to backhaul WiMax network," *Connected Planet*, September 14, 2009.
143. Mike Robuck, "Bright House signs backhaul deal with MetroPCS," *CedMagazine.com*, March 8, 2011.
144. FiberTower Press Release, "FiberTower Supports MetroPCS Backhaul Network Evolution to Ethernet," April 21, 2010.
145. Yoel Knoll "Enabling Rural Broadband Services with Wireless Backhaul," Ceragon Networks, October 2009, p. 5.
146. See, for example, http://www.bugtusselwireless.com/2010/02/10/rural-wireless-operator-ditches-t1s-for-microwave-backhaul-plan/.

provide evidence to support that claim. Even if they could show that regulation is inadequate, the appropriate remedy would be to improve regulation, not to block an otherwise efficient transaction.

121. Moreover, the growth in demand for wireless services implies that the number of cell sites that cannot be economically served by fiber is declining. While it may not be economical for an access provider to deploy fiber to serve a cell site that generates limited traffic volume, increases in volume increase the number of sites that can be served by alternative vendors. We understand, for example, that alternative access vendors often will deploy fiber to T-Mobile USA sites upgraded from 2G to 3G services.

3. OPPONENTS FAIL TO PROVIDE EVIDENCE THAT THE PROPOSED TRANSACTION WOULD AFFECT AT&T'S PRICING OF SPECIAL ACCESS SERVICES.

122. Opponents present no empirical support for their claim that the proposed transaction would increase AT&T's incentive to raise the price or to degrade the quality of special access services charged to rival wireless carriers.[147] As noted above, T-Mobile USA does not compete with AT&T in the provision of special access services to other carriers. Thus, the transaction does not eliminate a supplier, so opponents' concern is purely vertical. This section shows that there is no basis for opponents' vertical special access concerns and, thus, there is no basis to conclude that the proposed transaction will affect special access prices.

123. First, opponents present no evidence that the addition of T-Mobile's subscribers would materially alter AT&T's incentives with respect to special access pricing. Second, opponents present no evidence that past mergers, which presumably would have given rise to similar incentives, had any effect on special access pricing. For example, Cingular's acquisition of AT&T Wireless in 2004 combined a wireless carrier unaffiliated with an ILEC with Cingular, which was owned by SBC and BellSouth.

147. Leap Petition, pp 24-25; CRA, ¶¶96-98.

Similarly, if opponents' theory was correct, the Verizon/ALLTEL, AT&T/Dobson, AT&T/Centennial, and Verizon/RCC transactions as well as the Sprint/Nextel transaction should have raised similar incentives in certain geographic areas. However, opponents present no evidence that any of these transactions resulted in increased special access rates or lowered service quality for rival wireless carriers.

4. SPECIAL ACCESS SERVICES ACCOUNT FOR A MODEST SHARE OF WIRELESS CARRIERS' COSTS.

124. In addition to all the reasons that the proposed transaction would not increase AT&T's incentive to significantly raise special access rates, evidence indicates that even doing so would not harm retail wireless competition. Opponents assume that increases in special access charges resulting from the proposed merger would adversely affect wireless competition by harming the viability of AT&T's rivals. **[BEGIN SPRINT CONFIDENTIAL INFORMATION]**

[END SPRINT CONFIDENTIAL INFORMATION].

125. More specifically, data provided by Sprint's Vice President of Roaming and Access Planning Paul Schieber indicate that Sprint spent an average of **[BEGIN SPRINT CONFIDENTIAL INFORMATION] [END SPRINT CONFIDENTIAL INFORMATION]** per month per subscriber with AT&T for special access services.[148] As summarized in Table 7, in the unlikely event that the proposed transaction enabled AT&T to raise its special access rates by 10 percent, Sprint's operating margin would only decrease from **[BEGIN SPRINT CONFIDENTIAL INFORMATION] [END SPRINT CONFIDENTIAL INFORMATION]** to **[BEGIN SPRINT CONFIDENTIAL INFORMATION] [END**

148. This reflects an assumption that AT&T accounts for 50 percent of total Sprint special access costs paid to Verizon and AT&T.

SPRINT CONFIDENTIAL INFORMATION].[149] Likewise, even a 20 percent increase in special access rates would have only a minor impact on margins. These results are inconsistent with opponents' suggestion that the proposed transaction would significantly harm wireless competition or threaten the viability of wireless competitors by raising special access rates.

Table 7

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C. THERE IS NO BASIS TO OPPONENTS' CLAIMS THAT THE PROPOSED TRANSACTION WOULD HARM COMPETITION BY RESTRICTING THE ABILITY OF SMALLER CARRIERS TO OBTAIN ATTRACTIVE HANDSETS.

126. As discussed above, opponents claim that the proposed transaction would harm wireless competition by increasing AT&T's incentive and ability to enter into exclusive relationships with handset manufacturers. More specifically, they claim that AT&T would preclude rival wireless carriers

149. Using the operating margin assumed by CRA in its declaration on behalf of Sprint.

from offering attractive handsets by somehow "coercing" handset manufacturers into exclusive deals.[150] Some opponents (e.g., MetroPCS, Leap and Cincinnati Bell Wireless) also complain generally about the existence of exclusive arrangements for handsets.[151] This section shows that there is no basis for opponents' view that exclusive relationships between carriers and handset manufacturers are anticompetitive and no basis for their view that the proposed transaction would limit the ability of AT&T's rivals to enter into their own exclusive or non-exclusive relationships with manufacturers.

1. THERE IS NO BASIS FOR OPPONENTS' ASSUMPTION THAT EXCLUSIVE RELATIONSHIPS BETWEEN WIRELESS CARRIERS AND HANDSET MANUFACTURERS HARM COMPETITION.

127. The Commission has considered the competitive impact of exclusive relationships between wireless carriers and handset manufacturers and, to date, has chosen not to restrict such relationships.[152] This approach is consistent with the economic literature which recognizes that exclusive contracts promote consumer welfare except under limited circumstances.

128. It is widely recognized that exclusive relationships between manufacturers and distributors (here, wireless carriers) can promote competition and increase consumer welfare.[153] Specifically, exclusive relationships can preserve incentives for distributors to invest in developing, deploying, and promoting new products and services by limiting the ability of rival distributors to "free ride" on these investments. In the context of the wireless industry, exclusive relationships between a wireless carrier and a handset manufacturer (with respect to particular model) encourages the carrier to

150. See, for example, CRA, ¶¶104-107; Leap Petition, pp. 25-27; MetroPCS Petition, pp. 58-60; CBW Petition, pp. 31-33.
151. Leap Petition, pp. 25-27; MetroPCS Petition, pp. 58-60; CBW Petition, pp. 31-33.
152. See, for example, FCC Proceeding RM-11497, regarding Exclusivity Arrangements Between Commercial Wireless Carriers and Handset Manufacturers.
153. Dennis W. Carlton & Jeffrey M. Perloff, Modern Industrial Organization (4th edition), pp. 415-425, 671-673.

make investments in its network that enable consumers to fully utilize features offered on innovative handsets. Exclusivity also preserves a carriers' incentive to promote and market a handset.

129. Exclusive relationships with wireless carriers also can benefit handset manufacturers, due in part to the role of exclusive contracts in preserving carriers' incentives to support and promote a product. By increasing the profitability of a new handset, exclusive relationships with carriers can increase a manufacturer's incentive to invest in such products. Moreover, exclusive relationships between a carrier and handset manufacturer may spur others to innovate. For example, the introduction of Apple's iPhone, originally an exclusive relationship, likely spurred Google to develop Android devices. The Google operating system is licensed on a non-exclusive basis to a wide variety of handset manufacturers and is available on all carrier networks.

2. THERE ARE CERTAIN CIRCUMSTANCES IN WHICH EXCLUSIVE RELATIONSHIPS CAN HARM COMPETITION BUT THESE DO NOT ARISE IN THE WIRELESS INDUSTRY AND ARE NOT CREATED BY THE PROPOSED TRANSACTION.

130. It is recognized in the economic literature that exclusive arrangements are likely to harm competition only under limited circumstances. An exclusive relationship between a manufacturer and a distributor can harm competition if it restricts output or raises price at either the manufacturing or distribution level. For example, it is possible that a distributor that could not obtain access to a particular manufacturer's product would be so impaired that it would be forced to exit. If so, an exclusive relationship between a manufacturer and distributor could harm consumers by creating a monopoly distributor. Exclusionary conduct that raises a distributor's *marginal* costs may harm competition if it results in higher prices to downstream customers. However, it is also important to note exclusionary conduct that raises only a distributor's *fixed* costs would not be expected to harm

consumers since it would not result in a change in the distributor's profit-maximizing output.[154] That is, competition is not necessarily harmed even if exclusionary conduct imposes a cost on a distributor.

131. Concerns that exclusive contracts harm competition do not apply with respect to agreements between wireless carriers and handset manufacturers. Opponents provide no evidence that exclusive relationships between handset manufacturers and carriers have harmed competition to date and, as mentioned above, the Commission has not made any determination that the exclusive handset contracts harm competition. Nor have opponents provided evidence that the merger would have a material effect on the amount that AT&T would be willing to offer to handset manufacturers to enter into an exclusive arrangement. CRA argues that "AT&T's larger subscriber base also gives it an advantage in bidding…" because "[t]he per unit cost of acquiring such exclusive rights is higher for Sprint than for AT&T because Sprint has a smaller number of customers over which to spread the total cost."[155] They argue that the proposed transaction increases this advantage because "it would provide AT&T with an even larger customer base" and give AT&T an incentive "to protect AT&T's customer base."[156]

132. However, the reduction in AT&T's average per subscriber cost, the metric highlighted by CRA, is of little relevance in evaluating its incentives in bidding for exclusive handsets, which instead depends on the extent to which subscribers would move to or from AT&T in response to an exclusive handset contract.

133. CRA also fails to consider a variety of factors affecting (i) the impact of the proposed transaction on AT&T's bidding incentives; and (ii) the impact of the proposed transaction on a

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154. Dennis W. Carlton & Jeffrey M. Perloff, Modern Industrial Organization (4th edition), pp. 661 – 674; "A General Analysis of Exclusionary Conduct and Refusal to Deal -- Why Aspen and Kodak are Misguided," Antitrust Law Journal, (2001). (Reprinted in e-Commerce Antitrust & Trade Practices, Practicing Law Institute, 2001.)
155. CRA, ¶106.
156. CRA, ¶106.

manufacturer's interest in entering an exclusive contract with AT&T. For example, a benefit to exclusivity is the wireless provider's incentive to support and promote the handset. However, this implies that a handset manufacturer may have less incentive to enter into an exclusive relationship with a carrier that already offers many exclusive handsets, since carriers cannot be expected to heavily promote all models. Moreover, AT&T's larger size may reduce its incentive to bid for an exclusive contract if there is a reduction in the number of new subscribers that AT&T could hope to attract from other carriers as a result of the exclusive handset. None of these countervailing factors is addressed by CRA or other opponents.

3. WIRELESS CARRIERS HAVE BEEN SUCCESSFUL IN CONTRACTING WITH MANUFACTURERS AND THERE IS NO BASIS TO CONCLUDE THAT THE PROPOSED MERGER WOULD AFFECT THESE CIRCUMSTANCES.

134. Opponents' claim that the proposed merger would impair the ability of some carriers to offer attractive handsets is inconsistent with the success of AT&T's rivals in contracting with a wide variety of manufacturers today. Commission data identify for each wireless carrier the range of handsets sold in the U.S.[157] These data indicate that in 2010 the seven largest wireless carriers in the U.S. offered over 350 handsets models from 19 manufacturers. As summarized in Table 8, carriers have been successful in contracting with a wide range of manufacturers.

157. The FCC Hearing Aid Compatibility Reports are maintained to track compliance with hearing aid compatibility requirements for handsets. The data identify the manufacturer, model numbers/names, technology (GSM, UMTS, CDMA, etc.), spectrum bands accessed, functionality level (e.g., basic phone, feature phone, smartphone), and whether the handset offers Wi-Fi.

Table 8

Number of Handset Manufacturers Offered by Wireless Carriers 2010

Service Provider	Number of Manufacturers
AT&T	14
Verizon	10
T-Mobile USA	10
Sprint	9
Leap	7
MetroPCS	8
U.S. Cellular	7

Source: FCC Hearing Aid Compatibility Reports: Service Providers, 2010.

135. Available Commission data further indicate that exclusive handset arrangements between manufacturers and wireless carriers have been common. The FCC's 14th CMRS Report reviewed 67 selected smartphone launches in 2008 and 2009 and found that 32 of the 67 smartphone launches were exclusive and 35 were non-exclusive, including several by Sprint.

136. More recently, other U.S. carriers have also been successful in offering a variety of handsets, including smartphones, as well as a variety of models on an exclusive basis. J.P. Morgan recently noted that "Leap Wireless and MetroPCS, as well as Boost and Virgin Mobile, began in 2010 to offer better data handsets and smartphones, which are selling very well."[158] For example, US Cellular currently offers eleven smartphones. [159] The Samsung Mesmerize smartphone is exclusive to US Cellular.[160] US Cellular also plans to launch eight new smartphones in the next two quarters.[161] Leap

158. J.P. Morgan, "Prepaid Wireless," April 18, 2011, p. 1.

159. US Cellular currently offers seven Android smartphones, two Blackberrys and two Windows-based smartphones. (http://www.uscellular.com/uscellular/cell-phones/showPhones.jsp?type=phones&phone-selector-category=phone-selector-android&_requestid=721654. http://www.uscellular.com/uscellular/cell-phones/showPhones.jsp?type=phones&phone-selector-category=phone-selector-blackberry&_requestid=721789. http://www.uscellular.com/smartphones/windows-mobile/index.html)

160. http://www.uscellular.com/uscellular/cell-phones/showPhoneDetails.jsp?productId=prod60188&phone-selector-compared1=&phone-selector-compared-prepaid-sku1=&phone-selector-compared-contract-sku1=&phone-selector-compared2=&phone-selector-compared-prepaid-sku2=&phone-selector-

currently offers four Android smartphones and one Blackberry.[162] Leap reported that 40 percent of its new device sales in the first quarter of 2011 were smartphones.[163]

137. MetroPCS currently offers four Android smartphones, one Blackberry, and one Windows phone.[164] Leap and MetroPCS collaborated with RIM to develop and launch the first AWS-banded Blackberry in mid-2010.[165] MetroPCS began offering its first Android smartphones in the fourth quarter of 2010, coinciding with "[g]rowing industry-wide demand for Android smartphones…"[166] MetroPCS was the first carrier to launch an LTE device, as well as the first carrier to launch an Android LTE device.[167] MetroPCS expects to launch additional 3G and 4G smartphones in 2011, including a number of touchscreen Android devices.[168] Guggenheim Securities noted in the third quarter of 2010 that MetroPCS has recently "expanded its handset portfolio to almost 20 handsets, including the Blackberry Curve…"[169] Even MetroPCS' statement in opposition to the proposed transaction highlights their success in offering attractive handsets.[170]

138. Sprint's recent successes in offering attractive handsets provide further evidence that CRA's concerns are misplaced. Sprint has a unique set of requirements for its handsets, including the ability to operate on the SMR, PCS and BRS bands and to support CDMA and WiMAX technologies. Nonetheless, many manufacturers have developed attractive handsets for use on Sprint's network,

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161. Telephone and Data Systems Inc. TDS (U.S. Cellular) Q1 2011 Earnings Call Transcript, May 6, 2011, p. 4.
162. http://www.mycricket.com/cell-phones3.
163. Leap Wireless Q1 2011 Earnings Transcript, May 4, 2011, p. 5.
164. http://www.metropcs.com/shop/phonelist.aspx.
165. J.P. Morgan, "Prepaid Wireless," April 18, 2011, p. 13.
166. MetroPCS Press Release, "MetroPCS Launches Its First No Contract Android Smartphone with the LG Optimus M™," November 22, 2010. Deutsche Bank, "Metro PCS Comm.," May 4, 2011, p. 4.
167. J.P. Morgan, "Prepaid Wireless," April 18, 2011, p. 17.
168. MetroPCS Communications' CEO Discusses Q1 2011 Results – Earnings Call Transcript, May 3, 2011, p. 5.
169. Guggenheim Securities, "MetroPCS Communications, Inc.," September 7, 2010, p. 6.
170. MetroPCS Petition, p. 10.

including exclusive models. For example, in June 2010, Sprint launched the HTC EVO 4G to "rave reviews."[171] The first day sales of the HTC EVO 4G broke all of Sprint's previous records and led reporters to characterize the device as pitted in a "battle of giants" with the iPhone.[172] Credit Suisse noted that the strong reception of the HTC EVO 4G increased Sprint's postpaid gross adds in the second quarter of 2010 and noted that gross adds would have been even higher if not for inventory shortages.[173] Sprint launched its second "4G" device, the Samsung Epic, also to "rave reviews" and strong sales in August 2010.[174] In February 2011, Sprint had a "4G" portfolio that included 18 devices.[175]

139. Sprint has stressed the quality of these handset offerings in its public statements. In the earnings call for the third quarter of 2010, Sprint noted that: "PC World ranks the Samsung Epic 4G … and the HTC EVO 4G … as the two best SmartPhones on the market ahead of the iPhone 4 and ahead of any other Android device. ZDNet ranks the EVO as the best SmartPhone on the market. Each device has a long list of accolades and SmartPhones are helping to fuel our momentum."[176]

140. Sprint has continued to be able to obtain new, innovative, and exclusive handsets. For example, Sprint's launch of the Nexus S 4G handset in May 2011 was classified by Wells Fargo Securities as "a significant development."[177] Additionally, anticipation is currently building around the new

171. Technology Business Research, "Sprint Nextel," 3Q2010, p. 3.
172. Guarav Kheterpal, "HTC Evo Android Phone Breaks Sprint's First-day Sales Records," June 8, 2010, The Telecom Blog.
173. Credit Suisse, "Sprint", July 28, 2010, p. 8.
174. Business Wire, "Second 3G/4G Phone, Samsung Epic 4G, Launches with One of the Best First-Day Sales for Any Sprint Device," September 3, 2010. Technology Business Research, "Sprint Nextel," 3Q2010, p. 3.
175. Oppenheimer, "Sprint Nextel," February 10, 2011, p. 3.
176. 3Q2010 Sprint Nextel Corporation Earnings Conference Call, p. 3.
177. Wells Fargo Securities, "Sprint-Nextel Corp.," May 9, 2011, p. 2; http://community.sprint.com/baw/community/buzzaboutwireless/phones-and-devices/samsung/nexus_s_/blog/2011/03/24/introducing-the-samsung-nexus-s-4g.

exclusive HTC EVO 3D, announced by Sprint at CTIA 2011, and the Motorola Photon 4G, both expected to be launched this summer.[178]

141. More generally, AT&T's rival carriers would continue to have the ability to contract with a large number of successful handset manufacturers. As shown in Table 9, there are a large number of manufacturers active in the U.S. and worldwide. Table 9 also shows that the handset industry is highly dynamic, with new firms entering and the shares of firms changing rapidly over time. The competitiveness of the handset industry confirms that there is no basis to conclude that AT&T's rivals would have difficulty in offering attractive and innovative handsets.

Table 9

Annual US Handset Shipment Share by Manufacturer
2007 and 2010

Manufacturer	2007	2010
Samsung	18.0%	30.7%
LG	15.8%	18.8%
Research In Motion	5.0%	10.9%
Motorola	35.0%	9.5%
Apple	1.6%	8.8%
HTC		5.8%
Nokia	9.8%	5.5%
Kyocera	4.4%	2.0%
Huawei		1.6%
Sanyo	3.2%	0.9%
UTStarcom	1.1%	0.7%
Sony Ericsson	2.2%	0.7%
Palm		0.7%
Others	3.9%	3.5%

Source: Strategy Analytics "Vendor Share: North America Handset Shipments Grow 3% in Q4 2010", February 2011.

178. Wells Fargo Securities, "Sprint-Nextel Corp.," May 9, 2011, p. 2. "Motorola Photon 4G coming to Sprint?" *Into Mobile*, May 25, 2011; http://newsroom.sprint.com/news/htc-evo-3d-fact-sheet.htm; http://www.gottabemobile.com/2011/05/25/sprint-poaching-motorola-droid-x2-from-verizon-launching-as-photon-4g/.

D. OPPONENTS OVERSTATE CONCERNS ABOUT HARM TO ROAMING AND WHOLESALE COMPETITION

1. SUMMARY OF CLAIMS

142. As noted above, opponents claim that the proposed merger would harm competition by reducing the number of GSM-based providers of wholesale services and GSM-based roaming partners.[179] AT&T and other GSM–based wireless carriers, principally T-Mobile USA, enter into in roaming agreements to provide coverage to subscribers when they attempt to use wireless services outside of areas served by their carrier's network. Opponents claim that the proposed transaction would create incentives for AT&T to negotiate for higher GSM-based roaming rates and further claim that the transaction would also result in higher CDMA roaming rates.[180] They claim that AT&T and Verizon would coordinate to raise their retail prices and that Verizon would therefore negotiate for higher roaming rates in order to increase its rivals' costs.

2. OPPONENTS IGNORE ROAMING-RELATED EFFICIENCIES OF THE PROPOSED TRANSACTION.

143. AT&T and T-Mobile USA are each other's largest roaming customers. For example, in 2010 T-Mobile USA accounted for **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent of AT&T's voice roaming revenue and **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent of AT&T's data roaming revenue.[181] At the same time, AT&T accounts for **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent of T-Mobile USA's voice and data roaming revenue.[182] The proposed transaction results in the internalization of roaming charges between AT&T and T-Mobile USA. Because both firms earn margins on both wholesale and retail sales, the proposed transaction would eliminate double marginalization

179. CBW Petition, pp. 10-13; Leap Petition, pp. 20-23; RCA Petition, p. 16.
180. CRA, ¶100.
181. AT&T Data; excludes Verizon acquisition.
182. T-Mobile USA data; calculations based on roaming revenue excluding taxes.

and provide an incentive for the merged firm to lower prices. Opponents ignore this factor in evaluating the transaction's impact on roaming services. As mentioned above, Professor Salop and his coauthors have previously recognized the pro-competitive benefit of merger-related roaming efficiencies.[183]

3. WHOLESALE CUSTOMERS WILL CONTINUE TO HAVE MULTIPLE ALTERNATIVE SOURCES OF SUPPLY.

144. Wholesale customers include wireless resellers and MVNOs. Tracfone is the largest and most successful of these.[184] We understand that Sprint is the largest provider of wholesale services to MVNOs. Customers like Tracfone can purchase wholesale services from both GSM and CDMA carriers and can offer customers both types of services. As such, AT&T and T-Mobile USA compete with CDMA carriers as well as each other to provide wholesale services. Because wholesale customers typically experience high turnover of their retail customer base, this steady stream of new retail customers enables wholesale customers to switch between GSM and CDMA based carriers in response to differences in wholesale prices. Professor Salop and his co-authors considered CDMA and GSM wholesale providers to be vigorous competitors with one another for wholesale services in their Sprint/Nextel filing.[185]

4. OPPONENTS OVERSTATE THE IMPACT OF THE PROPOSED TRANSACTION ON ROAMING AGREEMENTS.

145. There are a number of smaller carriers that use GSM and UMTS technologies that have roaming agreements with AT&T and T-Mobile USA. Opponents contend that the transaction will change AT&T's incentives as a participant in these agreements. However, opponents ignore several factors that reduce or eliminate any such concerns.

183. Besen, Salop and Woodbury Joint Declaration, pp. 12-13.
184. JP Morgan, "Flanker Brands and MVNOs Drive Big 4 Strength From Unlimited & Lifetime," May 13, 2011, p. 4.
185. Besen, Salop and Woodbury Joint Declaration, p. 19.

146. As described in the accompanying declaration of William Hague, AT&T's Executive Vice President – International, Alliances and Integration, roaming agreements are bilateral contracts, which impose reciprocal obligations and typically contain **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** rates.[186] Thus, the rates AT&T charges its roaming partners are typically **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]**.

147. Mr. Hague reports that AT&T generally has been a net purchaser of roaming services due to the fact that AT&T roams more on its partners' networks than they roam on AT&T's.[187] As a result, AT&T typically has the incentive to negotiate for lower, rather than higher roaming rates. Hague further explains that as a result of the proposed transaction AT&T's net roaming purchases will increase, further increasing AT&T's incentive to lower roaming rates.[188] This suggests that AT&T is a net purchaser from its smaller roaming partners and thus would have an incentive to reduce roaming rates with the partners, not to increase them, as CRA claims. Mr. Hague reports that AT&T generally has agreed to "reciprocal" domestic roaming agreements.[189]

148. Even if AT&T had the incentive to negotiate for higher roaming rates, opponents have not shown that this transaction increases AT&T's ability to do so. This is due to the fact that AT&T and T-Mobile USA use different spectrum bands for their UMTS services, with T-Mobile USA deploying UMTS on AWS spectrum, while AT&T uses its cellular and PCS spectrum.[190] Carriers who wish to have 3G roaming on these networks must have handsets that are compatible with these spectrum bands, thus reducing competition between roaming providers because of their inability to compete for subscribers

186. Reply Declaration of William Hague, ("Hague Declaration"), pp. 1-2.
187. Hague Declaration, p. 2.
188. Hague Declaration, p. 3.
189. Hague Declaration, pp. 1-2.
190. Carlton, Shampine, and Sider Declaration, Table 1.

with incompatible handsets. We understand from Mr. Hague that such handsets have not been widely adopted by subscribers.[191]

149. Sprint data indicate that roaming typically accounts for a **[BEGIN SPRINT CONFIDENTIAL INFORMATION] [END CONFIDENTIAL CONFIDENTIAL INFORMATION]** share of many carriers' costs and revenues. Sprint is a CDMA carrier that does not have a roaming agreement with AT&T or T-Mobile USA. However, in the absence of other data, we use Sprint's per subscriber roaming costs as a rough approximation of other carriers that have roaming agreements with AT&T. CRA reports that Sprint's roaming cost in 2010 for its CDMA post-paid subscribers was **[BEGIN SPRINT CONFIDENTIAL INFORMATION] [END SPRINT CONFIDENTIAL INFORMATION]** per subscriber per month.[192] Sprint reports a **[BEGIN SPRINT CONFIDENTIAL INFORMATION] [END SPRINT CONFIDENTIAL INFORMATION]** ARPU for its CDMA post-paid subscribers in 2010, which means that roaming costs were **[BEGIN SPRINT CONFIDENTIAL INFORMATION] [END SPRINT CONFIDENTIAL INFORMATION]** percent of ARPU.[193] A 10 percent increase in roaming costs would increase this figure to **[BEGIN SPRINT CONFIDENTIAL INFORMATION] [END SPRINT CONFIDENTIAL INFORMATION]** percent. This figure also does not account for any offsetting increase in roaming revenue that AT&T's roaming partners would realize under symmetric agreements. These figures suggest that even large increases in roaming costs would not be expected to affect the viability of a rival carrier.

150. In addition, the Commission's recently approved data roaming rules reduce or eliminate concerns that AT&T would refuse to offer roaming services. AT&T's existing data roaming agreements

191. Hague Declaration, p. 4.
192. CRA, ¶99. Sprint and CRA do not report whether Sprint is a net buyer or seller of roaming minutes.
193. Schieber Declaration, ¶6. Sprint does not report its roaming revenue which makes it impossible to evaluate whether it would be helped or harmed by higher roaming rates.

could serve as benchmarks under FCC rules should a future dispute arise with connection to the negotiation of new roaming agreements.

5. THERE IS NO BASIS FOR CONCERNS THAT THE PROPOSED TRANSACTION WOULD RESULT IN HIGHER ROAMING RATES FOR CDMA CARRIERS.

151. It is important to emphasize that the number of carriers offering CDMA roaming service will not change as a result of the transaction. As opponents have pointed out with respect to GSM roaming, carriers with CDMA infrastructure and handsets generally cannot substitute GSM roaming for CDMA roaming.[194] As a result, Sprint, MetroPCS, Leap, U.S. Cellular and other CDMA based carriers do not have GSM roaming agreements with AT&T or T-Mobile USA.

152. Nonetheless, opponents claim that CDMA roaming rates could increase as a result of the proposed transaction. This theory, briefly outlined by CRA, rests on two critical assumptions.[195] First, the theory requires that the proposed transaction enables AT&T and Verizon coordinate to raise retail wireless rates, and second, the theory assumes Verizon Wireless would then have both the incentive and ability to raise its roaming rates (in order to limit its roaming customers' ability to expand).

153. If the proposed transaction does not result in increased retail rates, there can be no harm to roaming competition, according to this theory. That is, CRA assumes that the proposed transaction will not enable AT&T to expand output or increase quality, which both imply lower prices (or lower quality-adjusted prices) than otherwise would be realized. Similarly, if the proposed transaction did not increase the likelihood of coordinated interaction between wireless carriers, there can be no concern about harm to competition in the provision of CDMA roaming services. We discussed the difficulty of coordinated interaction in the wireless industry in Section III above. And, in any event,

194. RCA Petition, p. 16; CBW Petition, pp. 21-22.
195. CRA, ¶100.

Verizon Wireless would still be facing Sprint as a provider of CDMA roaming as well as MetroPCS and Leap, which together can provide a near nationwide roaming footprint.[196] There is no basis to assume that all CDMA carriers would find it profitable to engage in the coordinated interaction necessary to raise CDMA roaming rates.

6. THERE IS NO BASIS FOR CONCERN THAT THE PROPOSED TRANSACTION WOULD LEAD TO HIGHER RATES IN, OR REFUSAL TO OFFER, LTE ROAMING AGREEMENTS.

154. As discussed in the April 19, 2011 Declaration of Dr. Kim Kyllesbech Larsen, Senior Vice President, Deutsche Telekom AG, T-Mobile USA has no clear path to deploying LTE due to lack of available spectrum and the difficulty of "re-farming" T-Mobile USA's existing spectrum holdings.[197] As a result, the proposed transaction does not reduce the number of available suppliers of LTE-based roaming services in the future and there is no basis to suggest that the proposed transaction would result in higher future rates under LTE voice or data roaming agreements. Future participants in LTE-based roaming agreements include carriers that are currently deploying the technology, including Verizon Wireless, MetroPCS and AT&T, as well as others that have announced, or are considering, deploying LTE services.

155. The Commission rules require carriers to negotiate data roaming agreements and to offer terms that are commercially reasonable. The Commission rules also provide a mechanism for enforcing these obligations.[198]

196. Carlton, Shampine & Sider Declaration, ¶102.
197. Declaration of Dr. Kim Kyllesbach Larsen, April 19, 2011, p. 9.
198. FCC, Second Report and Order in the Matter of Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services, FCC 11-52, April 7, 2011, ¶¶1-2.

E. THERE IS NO BASIS TO CLAIMS THAT THE PROPOSED TRANSACTION WOULD HARM THE ABILITY OF SPRINT OR OTHERS TO FINANCE INVESTMENTS.

156. CRA argues that the proposed merger will raise borrowing costs faced by Sprint and other carriers resulting in them becoming less effective rivals.[199] However, CRA does not suggest any mechanism by which the merger would raise Sprint's borrowing costs. While capital markets will allow firms to undertake profitable projects, CRA claims that Sprint already has significant financing constraints.[200] However, those current constraints are unrelated to the merger and have not prevented Sprint from raising billions of dollars of capital in recent years.[201] Furthermore, Sprint has stated in its 2010 10-K filing that it does "not believe [it] will require additional capital to make the capital and operating expenditures necessary to implement [its] business plans or to satisfy [its] debt service requirements for the next few years."[202] Thus, there is no basis to conclude that the proposed transaction would interfere with the ability of Sprint or other carriers to continue to operate as effective providers of wireless services.

V. THERE IS NO BASIS FOR OPPONENTS' CONCERN THAT THE PROPOSED TRANSACTION WOULD HARM CONSUMERS OR AT&T'S RIVALS BY SLOWING INNOVATION IN WIRELESS SERVICES.

157. Opponents claim that the proposed transaction would slow innovation for wireless services by eliminating important sources of competition and innovation. More specifically, opponents claim that AT&T's incentives to invest in research and development related to relieving its capacity constraints would be reduced with the transaction.[203] They also suggest that rivals would be weaker and thus less able to invest in research.[204] This section shows that there is no basis to conclude that the proposed transaction would slow innovation. To the contrary, the increase in capacity generated by the

199. CRA, ¶117.
200. CRA, ¶117.
201. Sprint Nextel 2010 10-K, p. F-18.
202. Sprint Nextel 2010 10-K, p. 13.
203. CRA, ¶¶111-112. MetroPCS Petition, pp. 29-30.
204. CRA, ¶¶113, 118-119.

proposed transaction would be likely to spur new innovations and accelerate the utilization of new services.

A. INNOVATION INVOLVES MANY DIVERSE FIRMS AND OPPONENTS FAIL TO EXPLAIN WHY THE PROPOSED MERGER WOULD SLOW THIS PROCESS.

158. Innovation in the wireless industry is generated through the interaction of handset manufacturers, wireless carriers, network equipment manufacturers, software developers, application designers, and others. In the course of about two decades, the interaction of these participants has revolutionized the manner in which people throughout the world communicate. If anything, the pace of innovation appears to be accelerating with the growth of wireless data services and improvements in network capacity with the deployment of LTE.

159. Many of these participants in the innovation process operate on a worldwide basis. Opponents fail to explain why a transaction that combines two firms that participate in only one level of the innovation "ecosystem" in only one country, accounting for less than 3 percent of wireless subscribers worldwide, would impede this process.[205] Given the complexity and unpredictability of innovation, it seems unlikely that the proposed transaction would have any material negative impact on the course of future innovation in the wireless industry, and, as we discuss below, the increased capacity and output generated by the merger is likely to spur innovation, not harm it.

160. A key dimension of competition among the large number of handset manufacturers operating worldwide is developing innovative and attractive products. Firms that succeed can rapidly gain sales and increase output, as reflected by the increased share of North American handset sales accounted for by HTC and Apple in recent years. At the same time, firms that fail to innovate quickly lose sales, as reflected in the steep decline in Motorola's share of handset sales.

205. Bank of America Merrill Lynch, "Global Wireless Martix 1Q11", April 28, 2011, p. 57, p. 200

161. There are also several competing handset operating systems including those developed by Apple, Google/Android, Blackberry, Microsoft, and Palm, as well as many software and application developers.[206] Wireless carriers participate in this process, among other ways, by working with handset manufacturers to assure functionality and by engineering their networks to improve the ability of subscribers to make use of handset capabilities. The combination of multiple handset manufacturers, operating systems and applications software means that it is difficult if not impossible to identify the source of the next important innovation. History does suggest, however, that whatever the next important wireless innovation is, it will probably lead to further increases in the demand for wireless capacity.

B. THE PROPOSED TRANSACTION IS LIKELY TO PROMOTE INNOVATION BY EXPANDING INDUSTRY CAPACITY AND OUTPUT.

162. Opponents claim that AT&T's incentives to research methods for developing equipment for new spectrum bands would be reduced by the proposed merger, which harms other carriers that might benefit from AT&T's research.[207] Opponents present no evidence that this is a particularly important source of research and innovation effort and, more generally, ignore the positive impact that the proposed merger would have on innovation by increasing increased capacity and output.

163. Many innovations created more efficient ways to use spectrum and took advantage of increases in capacity. For example, a wide variety of software applications for wireless handsets have been made possible only because of the large increases in network capacity resulting from carrier investments in infrastructure. The success of "apps" would not be possible in the absence of the capacity needed to serve these applications. Video applications are specific innovations that generate

206. FCC, Fourteenth Report in the Matter of Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services, FCC 10-81, May 20, 2010, ¶4.
207. See, for example, CRA, ¶¶111-112. MetroPCS Petition, pp. 29-30.

consumer benefits only when sufficient capacity is available. Capacity constraints reduce the quality of video applications or prevent them from functioning at all. On the other hand, increases in capacity can improve the quality of such applications and increase the demand for them, spurring further innovation. Such new products and services typically generate enormous consumer benefits.[208]

164. The incentive for wireless carriers and other firms to invest in new innovation depends on their ability to offer services based on these innovations. For example, collaborations between wireless carriers and handset manufacturers that generate new demand for wireless services are of value only if carriers have sufficient capacity to serve the increased demand. The proposed transaction allows AT&T to expand its capacity and expand output and thus increases the incentives for AT&T and other participants in the wireless innovation process to undertake investments in developing new products and services.

165. The transaction also is likely to spur further innovation in LTE handsets and technology by expanding the deployment of LTE. As discussed elsewhere, the proposed transaction is expected to expand the deployment of LTE which, in turn, creates incentives for manufacturers of handsets, handset operating systems and carriers to invest in developing and providing innovative LTE-based services.[209]

C. THE PROPOSED TRANSACTION DOES NOT ELIMINATE AN INDEPENDENT SOURCE OF INNOVATION.

166. Opponents present no evidence that T-Mobile USA has made significant contributions to technological innovation in the provision of wireless services. It also is important to note that although T-Mobile USA will become part of AT&T, Deutsche Telekom, T-Mobile USA's parent, will still be present

208. See, for example, Robert Crandall & Charles Jackson, "The $500 Billion Opportunity: The Potential Economic Benefit of Widespread Diffusion of Broadband Internet Access," in Down to the Wire (2003, Nova Science Press), Allan Shampine (ed.).

209. See, for example, https://www.lte.vzw.com/AboutLTE/WhatLTEMeansforMe/tabid/5868/Default.aspx.

as a potential source of innovation that can be adopted by other carriers including AT&T. As discussed above, there are many firms around the world, including carriers, manufacturers and developers that are trying to innovate. In addition, to the extent that T-Mobile USA engages in significant independent research and development efforts, those activities will not disappear. Some will be incorporated into AT&T, others embedded in the human capital of T-Mobile USA's employees may move to different carriers and industry participants.

167. Absent the proposed merger, T-Mobile USA's role in wireless innovation, such as it is, is likely to decline further as it lags behind other carriers with respect to deployment of new technologies. LTE is likely to be an important focus for new innovative activity, with AT&T and other carriers deploying LTE likely to play a role in this process. T-Mobile USA has no active plans to deploy LTE and, as a result, the integration of T-Mobile USA and AT&T is unlikely to adversely affect the pace of LTE-based innovations.

VI. CONCLUSION

168. None of the parties opposing the proposed transaction dispute the extraordinary growth in demand for wireless data services in recent years, nor do they dispute that demand for wireless data services will continue to grow dramatically in coming years. Nor do opponents dispute that the nation faces a severe spectrum shortage that is unlikely to be resolved for several years or more. The proposed transaction responds to these conditions and promises to relieve the capacity constraints that AT&T faces today in many areas and those that it soon will face in many other areas.

169. The proposed transaction is expected to generate large increases in capacity, output and service quality. The increased capacity creates strong incentives for AT&T to expand output. Integration of the firms' networks is expected to result in "automatic" near-term gains in traffic volume

as capacity constraints are eliminated, postponed or avoided. Wireless subscribers in both congested and uncongested areas will benefit from improved service quality as signal strengths increase due to increased network density. The transaction promises even greater long-term consumer benefits by expanding the amount of spectrum available to provide next-generation LTE services as well as extending the geographic scope of LTE deployment.

170. Opponents focus on standard concerns that the proposed transaction will harm competition by creating unilateral upward pricing pressure and by increasing the likelihood of coordinated interaction in the industry. They argue that these horizontal concerns are exacerbated both by AT&T's claimed ability to raise costs faced by rivals for special access and roaming service and by AT&T's alleged ability to impede rival carriers' ability to offer attractive handsets. They also argue that AT&T's ability to raise rivals' costs depends on upward pricing pressure and increased likelihood of coordinated interaction created by the proposed transaction. We conclude that opponents' economic analyses of these issues are unsupported by available facts and lack empirical support. None of the opponents' comments leads us to revise the opinions expressed in our initial declaration.

171. More specifically, opponents' analysis of unilateral effects fails to account for the high marginal costs faced by AT&T and T-Mobile USA today and in the future as their networks approach spectrum exhaust and they are forced to turn to high cost technologies such as oDAS, Wi-Fi and microcells. Their unilateral effects analysis also fails to account for quality improvements expected to result from the proposed transaction. Opponents' analysis of coordinated effects fails to recognize that the large efficiencies generated by the proposed transaction create strong differences in the interests of firms which make coordinated interaction unlikely. They also fail to recognize the competitive impact of "maverick" firms such as MetroPCS and Leap that have been successful challenging AT&T and other national carriers and the role of these firms in complicating coordinated interaction. Finally, opponents

fail to support their claims that the transaction will raise AT&T's rivals' costs. We show instead that (i) T-Mobile USA's experience indicates that carriers have access to a wide variety of alternative vendors of access services; (ii) AT&T generally has an incentive to lower roaming rates because it is a net purchaser of roaming services, and that this incentive will grow due to the transaction, which will generate an increase in AT&T's net purchases; and (iii) AT&T's rivals will have the ability to offer a range of attractive and innovative handsets, just as they do today.

172. We conclude that the proposed transaction will promote consumer welfare and urge its approval by the Commission.

I declare under penalty of perjury that the foregoing is true and correct. Executed on June 9, 2011.

Dennis W. Carlton
Senior Managing Director

I declare under penalty of perjury that the foregoing is true and correct. Executed on June 9, 2011.

Allan L. Shampine
Vice President

I declare under penalty of perjury that the foregoing is true and correct. Executed on June 9, 2011.

Hal S. Sider
Senior Vice President